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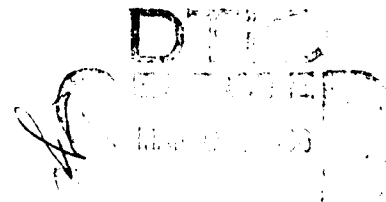
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**CRISIS MANAGEMENT AND MANAGERIAL INNOVATION IN  
THE NAVY SHIPBOARD SETTING: A PRELIMINARY STUDY**

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CRISIS MANAGEMENT AND MANAGERIAL INNOVATION IN THE  
NAVY SHIPBOARD SETTING: A PRELIMINARY STUDY

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## FOREWORD

This research and development was conducted in support of Advanced Development Project ZPN01 (Personnel Supply Systems) under Subproject PN-04 (Improved Personnel Utilization) and the sponsorship of the Deputy Chief of Naval Operations (OP-01).

The work, which was a collaborative effort of the USS PAUL F. FOSTER (DD 964) command; the Human Resources Management Center (HRMC), San Diego; and this Center, was directed toward evaluating the effectiveness and method of implementation of an innovative managerial technique being used aboard FOSTER to reduce crisis management and improve performance.

Appreciation is expressed to the following persons, who contributed their time and professional talents during the study:

1. From FOSTER:

- a. CDR George Sullivan, Commanding Officer
- b. LCDR William Hancock, Executive Officer
- c. Department and division officers and chief petty officers

2. From HRMC San Diego:

- a. CDR Beth Coye, Team Leader
- b. CDR Thomas Williams, Assistant Team Leader
- c. LCDR Robert Glennon, Assistant Team Leader
- d. MMCM Raymond Tarbox, Team Member
- e. ADCS Pleas Barry, Team Member

3. From NAVPERSRANDCEN:

- a. CDR Yvonne Dupes, Deputy Director of Programs
- b. Jacqueline Andersen, Research Assistant
- c. Tom Trent, Research Assistant

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Commanding Officer

## SUMMARY

### Problem and Background

Crisis management is a pervasive, Navy-wide problem, and it is a frustrating irritant for personnel in the shipboard operational setting. It occurs when unplanned, "short-fuse" tasks must be given priority over ongoing, routine tasks, causing upset schedules and reallocations of resources. The results are costly in human terms and, presumably, in degrading individual and unit performance.

Under the Navy's Human Goals Plan, Human Resource Management (HRM) specialists are assigned to assist a ship through the HRM Cycle, a chronologically sequenced series of overlapping action steps to assist commanding officers in improving the ship's overall mission effectiveness. USS PAUL F. FOSTER (DD 964) was scheduled for an HRM Cycle in Fall 1976. During the planning stages of this cycle, the CO decided to implement Management Action Planning (MAP) to address middle management issues revealed in the HRM survey and the disturbing level of crisis management. In implementing this technique, all FOSTER managerial and supervisory personnel, down to the division level, met at 3 or 6 month intervals away from the ship to plan the upcoming period. This planning included development of the Command Action Plan (CAP) and Department Action Plans (DAPs). All plans were to be periodically reviewed and updated.

### Purpose

The purposes of this effort were (1) to evaluate MAP's effects on crisis management and performance, (2) to document and evaluate the manner in which it was implemented in the shipboard setting, and (3) to test an evaluation research methodology in the operational shipboard setting.

### Approach

MAP's effectiveness was evaluated by administering a survey on two different occasions, conducting structured interviews, and analyzing performance measures provided by FOSTER. Its method of implementation was evaluated by data obtained in structured interviews and observations made at MAP sessions.

### Results

1. Periodic MAP sessions proved to be very effective in producing department and division plans for accomplishing scheduled events and improving lateral and vertical communication. Part of the impact of MAP was lost, however, because progress reviews of goal achievement were not conducted on a regular, frequent basis and plans were not comprehensively updated at interim points.

2. Performance measures indicated successful achievement of command goals involving reenlistment rates, readiness training, and number of Planned Maintenance Schedule actions accomplished.

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3. Overall survey averages showed that respondents felt that:

a. MAP had had a slightly positive effect on milestones met and goal achievement, a slightly negative effect on crisis management and work group morale, and little or no effect on other performance indices polled.

b. MAP required a "moderate" amount of extra effort, which decreased with experience.

c. Time consumed was the most severe problem initially encountered in use of MAP, but the severity of this problem moderated with experience.

d. Expected benefits of MAP varied widely. The most prominent benefits expected were increased quantity and quality of output, reduced grievance rates, improved goal achievement, and meeting milestones.

e. Overall, costs of MAP were judged to outweigh its potential benefits.

It appears that these results reflect disappointment due to unrealistically high initial expectations, as well as a lack of quantitative indicators by which to gauge improvement at the work group level. Costs are reducible by training supervisors and managers in planning and group dynamics skills.

4. Interviews indicated that MAP had more effect on department than on division levels, although supervisory scheduling and communication among divisions was facilitated. FOSTER command and upper management personnel expressed the belief that, although MAP could not prevent crises, it could, through improved efficiency and resource utilization, put the ship in a better position for dealing with them. Department personnel claimed MAP had value in clarifying command goals and priorities, thus enabling responsive action. Managerial personnel claimed MAP boosted their confidence in successful completion of demanding preparations for major events in the ship's schedule.

5. Problems noted in MAP implementation included (a) the necessity for frequently updating plans, (b) lack of interim plan "update" meetings, (c) interdependence among departments, (d) dealing with unrealistically elevated expectations, (e) lack of experience with tasks as a basis for workload estimation, (f) long lead time required for planning, (g) lack of training in group dynamics, and (h) lack of quantitative indicators of change usable by supervisors and managers.

6. Factors considered important to successful MAP implementation included (a) situational characteristics (off-site, wide participation, dedicated time), (b) the flexibility allowed in adapting MAP to department and managerial techniques, (c) sufficient time and resources for planning and reporting, (d) communication among departments and divisions, and (e) periodic upper management review and support.

7. The action research model of collaborative problem solving and evaluation was successfully applied in the operational shipboard setting. It was beneficial in providing useful information for the ship command, HRM consultants, and NAVPERSRANDCEN researchers.



### Conclusions

The evaluation of the MAP technique aboard FOSTER is only a first step in dealing with the complex problem of crisis management. Results suggest that crisis management is partially amenable to managerial innovation, but the problem exceeds the bounds of any single operational unit.

### Recommendations

Before crisis management in the shipboard environment can be reduced, the three parties involved in problem solving--operational commands, consultants, and research/evaluation groups--must collaborate in pursuing a number of actions. These include creating a rewarding climate for implementation of innovative approaches, developing improved instrumentation and evaluation designs for organizational assessment and change measurement, and implementing and evaluating a wide array of management techniques.

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## INTRODUCTION

### Problem

Crisis management creates serious problems for personnel in the ship-board operational setting. It occurs when unplanned, "short-fuse" tasks must be given priority over ongoing, routine, or planned tasks. This requires resources to be diverted, priorities and schedules to be juggled, and quality to be sacrificed for expedience. The results are reduced effectiveness in completing normal work, a variety of interpersonal and personal effects (e.g., confusion, lowered standards, conflict, frustration, feelings of loss of control, etc.), and, undoubtedly, a number of complex effects on individual and group performance.

Crisis management seemingly exists at all levels and in all types of commands: air, surface, and submarine. Although it is usually attributed to "externally imposed requirements" (e.g., reports, schedules, and inspections) from above, this is probably an oversimplification. Two other subtle causes have been suggested: (1) poor planning within the command, which may in itself create crises, and (2) perceptions and expectations of the intractability of the operational situation, which prevent methods for avoiding crises from being recognized and pursued.

### Background

#### Human Resource Management

The Navy's Human Goals Plan (Chief of Naval Operations, 1973) represents an attempt to "ensure the development of the full potential of the Navy's human resources and the application of that potential toward maximum effectiveness in the performance of the Navy's primary mission." At the core of the Human Goals Plan is a Human Resource Management Support System (HRMSS). The system includes HRM Centers and Detachments (HRMC/D), which are responsible for delivering HRM services within the HRM Cycle.

The HRM Cycle is a chronologically sequenced series of action steps tailored to assist commanding officers in improving the overall mission effectiveness of their units. Fleet units are currently assigned for an HRM Cycle, shown as a Human Resource Management Availability (HRAV) on the normal quarterly employment schedule, based on recommendations from Type Commanders. Once a command is scheduled for an HRM Cycle, an HRMC or HRMD is assigned to assist the commanding officer through the following Cycle steps:

1. Preparatory activities.
2. Data gathering, using the HRM Survey<sup>1</sup> to identify areas for improvement.

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<sup>1</sup>This survey is primarily designed to assess personnel perceptions in six major dimensions: Command Climate, Supervisory Leadership, Peer Leadership, Work Group Processes, Outcome Measures, and HRM Program areas. An example of the HRM Survey is provided in Appendix A.

3. Survey data analysis.
4. Feedback and diagnosis of HRM practices, identifying opportunities for improving actions.
5. Setting command HRM Cycle objectives and planning for their implementation.
6. HRM Availability (HRAV), when training is accomplished and a Command Action Plan (CAP) is developed.
7. Unit actions implementing and monitoring CAP.
8. Continuing assistance by HRMCs, as requested by the fleet unit.

Command Action Plans (CAPs) developed during the HRAV (Step 6) generally include goals ranging from improving communication to reducing drug and alcohol abuse. Productivity-oriented goals are usually not included. Instead, productivity is addressed during the HRAV by holding Leadership and Management Development (LMD) workshops aimed at improving the individual's ability to cope with common managerial tasks and relationships. In these workshops, participants are provided with new concepts in the areas of problem solving, communication, motivation, leadership, time management, decision making, and related areas for use as management tools.

#### Organizational Setting

USS PAUL F. FOSTER (DD 964) was scheduled for an HRM Cycle in 1976. HRM Support Team Two from HRMC San Diego established initial contact with the command (Step 1) in September 1976. Before succeeding cycle steps are described, some background on the ship is provided.

FOSTER is the second ship of the DD 963 class and the first to join the Pacific Fleet. Ships in this class are multimission surface combatants incorporating the latest concepts in ship design and electronic systems into their combat capability. They are the largest (over 560 feet long, 55 feet wide, with a displacement of 7800 tons) general-purpose destroyers ever built for the United States Navy. FOSTER is designed for a crew of approximately 20 officers and 253 enlisted personnel (including 18 chief petty officers).

After commissioning (in February 1976 in Pascagoula, MS), shakedown, and a brief stop at its eventual homeport (San Diego), FOSTER began a 6-month Restricted Availability (intermediate maintenance service) in the Long Beach Naval Shipyard. During this period, the command was contacted by the HRM Support Team.

The HRM Survey was administered (Cycle Step 2) aboard ship in Long Beach in late September, while the ship's schedule was relatively slack. The HRM team analyzed the survey results obtained (Step 3), comparing the data with normative data for surface ships and preparing a narrative summary (see Appendix B). Generally, the results were positive, with the survey indices for FOSTER ranging from the 45th to the 70th percentile, compared with other

surface ship personnel. Most indices clustered at the 50th percentile, meaning that, overall, 50 percent of the personnel from other surface ships responded more favorably than FOSTER personnel; and 50 percent, less favorably.<sup>2</sup> However, when the team presented the results of its analysis to command personnel (Step 4) in early October, they pointed out that the following problem areas were worthy of attention:

1. Participation and communication--Responses indicated that some crew members felt that persons affected by command decisions were not allowed to participate in those decisions and that higher levels were not aware of lower level problems.

2. Planning and teamwork--Responses indicated that (a) workload and time factors were not always considered adequately in planning and assigning work, and (b) team goals were not given enough emphasis.

3. Training and motivation--Responses indicated that some crew members felt that rewards were not usually commensurate with work accomplished, that the command did not meet individual training and advancement goals, and that duties often were not helpful to their careers.

The HRAV planning meetings (Step 5) were held during the third week of October 1976. During these meetings, the Commanding Officer (CO) decided that the HRAV should focus on issues in middle management, including (1) crisis management, (2) participative decision making, (3) lateral cooperation, (4) middle management visibility, (5) workload distribution, and (6) leadership and managerial skills for E-5s and E-6s. Further, the CO decided that, immediately following the HRAV, he would gather senior enlisted and officer personnel to plan for the upcoming quarter (January-March 1977) in an effort to reduce crisis management by group goal setting and commitment (Step 7). The HRAV objectives and the projected means for achieving them are included in Appendix C.

#### HRAV/Management Action Planning (MAP)

The HRAV and initial Management Action Planning (MAP) session were conceived as a 1-week period where all FOSTER officers and senior enlisted could meet together away from the ship. Prior to the HRAV, all participants were to complete a number of reading assignments and written exercises. They would then meet together for 2-1/2 days of lecture-discussion training on such topics as role negotiation, role definition, group dynamics, decision making, communication skills, and management by group objectives (MBGO), followed by 2 days of MAP for the upcoming quarter (see Appendix C for schedule). Plans were to be broken down into several levels: The Command

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<sup>2</sup>A resurvey a year later showed some positive changes in overall perceptions (from the 50th to the 56th percentile). It is notable that four HRM indices that are predictive of performance (Shields & Wells, 1978) showed high scores for FOSTER personnel compared to those of other surface ships: (1) Human Resource Emphasis, 72nd percentile, (2) Decision Making, 65th percentile, (3) Goal Integration, 71st percentile, and (4) Satisfaction, 81st percentile.

Action Plan (CAP), Department Action Plans (DAPs), and division and work group plans. Each plan was to have written goals and milestones. The primary purposes of the planning process were (1) to develop commitment toward completing the HRAV in the shipyard and qualifying the ship and crew for deployment to the Western Pacific operational theatre in the shortest possible time, and (2) to reduce the amount of crisis management being encountered.

The first MAP session was held on 11-12 November 1976. During this session, the planned calendar of events was slightly modified. The MBGO training session was eliminated and the group proceeded directly into action planning. Relatively few lectures were included in the training sessions, in favor of more discussion. During MAP, the HRM team members provided advice and assistance. The CAP goals developed for the initial MAP session are provided in Appendix D.

During the MAP session, the ship's top management (the CO, XO, and department heads) agreed that the MAP process should be repeated quarterly, setting aside 2 days about the middle of each quarter to allow officers and chiefs to update their DAPs and to set milestones for the upcoming quarter. It was also agreed that 1 day of each quarter would be set aside to allow each division of each department to update their division and work center milestones, and that the XO and department heads would troubleshoot their DAPs monthly to ensure their effectiveness.

In January 1977, the HRM Center, San Diego requested the Navy Personnel Research and Development Center to consider conducting an evaluation of the effectiveness of MAP as implemented aboard FOSTER. Consequently, in March 1977, FOSTER command personnel and HRM Support Team members met with Center research personnel to plan such an evaluation.

#### Purpose

The purposes of this effort were:

1. To evaluate MAP as a technique for ameliorating crisis management and improving performance in the operational shipboard setting.
2. To document and evaluate the method of implementing MAP in the shipboard setting, highlighting factors contributing to success or failure in gaining adoption of the techniques.
3. To test a methodology for evaluation of management tools/practices in the operational shipboard setting.

## METHOD

Management Action Planning (MAP) was not intended to replace existing managerial techniques aboard FOSTER; rather, it was integrated with existing procedures, the most prominent of which was the Plan of Action and Milestones (POA&M) technique. This technique, which involves step-by-step planning and assignment of deadlines for accomplishing tasks and subtasks, generally assumes that all parties affected by the task are considered by the planners. The MAP technique encompasses the POA&M technique by involving all supervisory and management personnel in planning at the same time and at a common location, thus facilitating communication up and down the command hierarchy and in and among departments.

### Hypotheses

Since the major concerns of the FOSTER command were to reduce crisis management and to maximize performance, MAP implementation was not designed to provide statistical comparisons. However, it was based on a number of assumptions and hypotheses, generated from operational experience and management theory. Although these assumptions and hypotheses were not formally documented in advance, they are provided here for information.

1. The internally-generated component of crisis management would be reduced through better mid-range planning.

This hypothesis is consistent with Human Resource Management Center (HRMC) findings that more effective amphibious ships are distinguished by mid-range planning and goal setting. From a scientific perspective, it is presumed that improved mid-range planning requires (a) lengthening the time horizon of supervisors and managers, (b) clarifying goals and priorities, (c) increasing accuracy in scheduling activities and estimating resource requirements, and (d) developing managerial skills in review and feedback as plans are implemented.

2. MAP would improve communication among departments, thus increasing cooperation and quality of performance.

From HRMC's perspective, communication and cooperation could reflect MAP's team-building effects. From a scientific perspective, improvements in communication can be expected to result from clarifying organizational goals and command priorities, thus improving understanding of (a) unit and subunit responsibilities and (b) relationships among units in carrying out those responsibilities.

3. The greatest benefit would be realized from MAP by allowing supervisors and managers to adapt it to their own managerial styles; that is, by allowing it to be adapted to situational conditions, rather than attempting to achieve uniformity in form across all settings.

At the same time, the FOSTER command attempted to minimize additional paperwork demands caused by use of MAP. From a scientific perspective, adaptability of the technique and minimizing its burden can be expected to reduce resistance to change; thus, it is more likely to be accepted.



4. Successful MAP implementation would require a "dedicated" time period for planning, active participation by all levels of management and supervision, and a thorough follow-through.

A dedicated planning period is necessary to minimize immediate demands that displace planning. Since MAP requires monitoring of planned actions throughout the subsequent (planned) period, wide participation is needed in follow-through, modification, and feedback with respect to (a) goals and accomplishments, and (b) changes in priorities and milestone dates. Full utilization of MAP was expected to require several successive quarterly periods of experience with the technique. These command expectations are consistent with theories that predict that (a) participation increases acceptance, (b) adoption is facilitated by intense off-site involvement followed by a supportive climate within the organization during the subsequent trial period, and (c) full implementation requires an extended time period during which experience gained with the technique accumulates, the technique is debugged, and, finally, the technique is accepted as routine.

#### Design, Variables, and Measures

Since the evaluation team entered the project after the initial MAP session (11-12 November 1976), the design adopted was to assess the changes in perceptions and experiences of officer and senior enlisted personnel as they proceeded through four quarters of experience with MAP. Two main aspects of MAP were under consideration: (1) its effects on various organizational performance outcomes, and (2) its method of implementation. The former was evaluated by means of surveys administered on two different occasions, structured and unstructured interviews, and performance measures; and the latter, by interviews and observations of subsequent MAP sessions.

The emphasis of the study was on process and dependent variables, since it was not possible to manipulate independent variables. Thus, the initial survey consisted of 58 Likert-type items, assessing characteristics of the management goals and the review process, personnel attitudes toward MAP, severity of problems encountered, effects on personnel and unit outcomes, and subjective judgments of success and value of MAP. The second survey was a shortened version of the first, consisting of 39 items. These surveys are presented in Appendix E.

The structured interview consisted of 16 open-ended items directed at obtaining data concerning the organization and mission of the interviewee's assigned unit, the nature of MAP in the unit, MAP participants, progress reviews and feedback provided after goal accomplishment, changes in MAP skills, changes in attitudes toward MAP, and subjective assessments of MAP's impact on goal accomplishment. The interview schedule is presented in Appendix F.

#### Procedure

The initial survey was administered on 5 April 1977, 2 days before the beginning of the second MAP session. It was completed by 23 officers and senior enlisted personnel from six departments: Executive (EXEC) (N = 4), Engineering (ENG) (N = 4), Navigation (NAV) (N = 3), Operations (OPS) (N = 6), Supply (SUP) (N = 2), and Weapons (WEP) (N = 4).

The MAP session for the second quarter was held on 7-8 April, about 5 months after the first. Before this session began, the CO and XO were briefed on the survey results by the evaluation team. The same briefing was then given to all the officers and senior enlisted men during the first session of MAP. Evaluation team members attended this 2-day off-site session, noting differences among departments, department participation, and planning schedules.

Structured interviews were conducted during the period from 20 May through 15 June. A total of 19 interviewees participated; they were drawn from all six ship departments and represented all levels, from leading chief to department head. Interview results were tape recorded for subsequent content analysis.

The second survey was administered on 12 September 1977, 3 weeks before the MAP session for the fourth quarter. This survey was completed by 24 officers and senior enlisted personnel (EXEC = 4, ENG = 5, NAV = 2, OPS = 5, SUP = 2, and WEP = 6). At the same time, the HRM Support Team administered a follow-up HRM Survey to the entire ships company, to determine whether personnel perceptions had changed during the preceding year.

Before the third MAP session, which was conducted off-site on 6-7 October 1977, feedback was provided to the FOSTER CO and XO concerning the results of the two surveys, the interviews, and the follow-up HRM Survey. As before, the evaluation team provided feedback to the officers and senior enlisted personnel.

The final steps were a debriefing of the CO/XO concerning the third MAP session and a group interview of department heads. A schedule of HRM Cycle and MAP events is provided in Figure 1.

### Analyses

Responses to both surveys and the interviews were compared within and across departments, and performance data were examined for presence or absence of desirable outcomes and indications of possible positive effects of MAP.

<u>Date</u>	<u>Event</u>	<u>Cycle Step</u>
1976 September	HRM Support Team Two contacts FOSTER	1
23 September	HRM Survey Administered by Support Team Two	2
30 September 5 October	HRM Survey Feedback to CO/XO Feedback training to supervisors }	4
18-26 October	HRM Planning Meetings	5
5 November 8-10 November	Preparatory material provided MAP participants HRM	6
11-12 November	MAP Session 1	
1977 <u>1st quarter</u>		
20 January	HRM/NAVPERSRANDCEN discussion regarding possible MAP evaluation	
24 March	MAP evaluation planning meeting--FOSTER command, and representatives of HRM Support Team and NAVPERSRANDCEN	
<u>2nd quarter</u>		
5 April	First MAP survey	
7-8 April	MAP Session 2, initiated by survey feedback	7
20 May-15 June	Structured individual interviews	
<u>3rd quarter</u>		
12 September	Second MAP survey and follow-up HRM Survey	
<u>4th quarter</u>		
4 October	Survey feedback to CO/XO	
6-7 October	MAP Session 3, initiated by survey feedback	
31 October/ 9 November	CO/XO debriefing regarding MAP Session 3	
21 November	Group interview of department heads	

Figure 1. Schedule of HRM Cycle and MAP events.

## RESULTS

### Management Action Planning (MAP) Surveys

The responses to items in the MAP surveys are discussed in the following paragraphs; items appearing in the first and second surveys are indicated by subscripts 1 and 2 respectively. Since these surveys were constructed specifically for this evaluation effort, normative data are not available. However, the response data do indicate how personnel attitudes changed between the administration of the first survey--in April 1977, after MAP had been in effect for 1 quarter--and the second--in September 1977, after it had been in effect for 3 quarters. The means of responses to individual survey items are provided in Table 1.

#### MAP Sessions and Goals

Participation. Respondents were asked (Item 1<sub>1,2</sub>) to indicate how much opportunity they had had to contribute to action planning for their work group. Responses to the first survey revealed a difference in perception among departments, with the Navigation (NAV) and Engineering (ENG) departments reporting low opportunity; and the Executive (EXEC), Operations (OPS), Weapons (WEP), and Supply (SUP) Departments, considerable opportunity. By the time of the second survey, opportunity was perceived as slightly increased by all departments except ENG (greatly increased) and WEP (decreased slightly).

Influence. In the first survey (Items 2<sub>1</sub> and 3<sub>1</sub>), respondents were asked to indicate whether they felt the mix of influence/input during departmental and divisional action planning was mostly downward (top-down) or upward (bottom-up). Most departments indicated that the mix was essentially equal. These items were not included in the second survey.

Goal Feasibility. Respondents were asked (Items 9-11<sub>1</sub> and 8-10<sub>2</sub>) how realistic they felt department goals set at the beginning of the preceding period were on three dimensions: (1) target dates, (2) difficulty, and (3) availability of resources. In the first survey, overall results showed that 40 percent of the goals were judged to be realistic in terms of target dates; 50 percent, in terms of level of difficulty; and 45 percent, in terms of availability of resources. In the second, the proportions were 50, 45, and 45 percent respectively. It is interesting to note that the dimension of target dates showed the least variability among departmental judgments in the first survey (30 to 50%), and the most in the second (25 to 75%).

Number of Goals. When asked to give their opinion on the number of goals in their department plans (Items 15<sub>1</sub> and 14<sub>2</sub>) overall results on both surveys indicated that respondents felt there were slightly too many goals. However, this overall stability is deceptive since, in the second survey, the responses of SUP and ENG were moderated, while those of the other departments were more extreme.

Goal Clarity. Respondents were asked (Items 17<sub>1</sub> and 16<sub>2</sub>) what proportion of the department goals had been clearly stated. In the first survey, the overall average response was 60 percent (ranging from 50% for ENG to 90% for SUP), compared to 55 percent for the second (ranging from 35% for WEP, ENG, and NAV to 75% for SUP). OPS reported 63 percent in both surveys.

Table 1

## Survey Item Means and Number of Respondents

Survey Item		First Survey (April 1977)										Second Survey (September 1977)									
		Overall X/N	EXEC X/N	ENG X/N	NAV X/N	OPS X/N	SUP X/N	MEP X/N	Overall X/N	EXEC X/N	ENG X/N	NAV X/N	OPS X/N	SUP X/N	MEP X/N						
Apr.	Sept.	1	1	3.21/23	3.75/4	2.00/4	2.00/3	3.66/6	4.00/2	3.75/4	3.67/24	4.50/4	3.20/5	2.50/2	3.80/5	4.50/2	3.33/6				
2	--	2	--	2.90/21	3.00/4	3.33/3	3.00/3	2.60/5	3.00/2	2.75/4	--	--	--	--	--	--	--				
3	--	3	--	2.94/19	3.00/2	2.75/4	2.50/2	2.80/5	4.00/2	3.00/4	--	--	--	--	--	--	--				
4	2	4	2	1.90/21	2.66/3	1.50/4	1.66/3	1.40/5	3.00/2	2.00/4	2.38/21	2.75/4	2.20/5	2.50/2	1.25/4	2.50/2	3.25/4				
5	3	5	3	2.45/22	3.50/4	2.25/4	2.33/3	1.40/5	4.00/2	2.25/4	2.96/21	3.25/4	3.20/5	2.50/2	1.50/4	5.00/2	3.25/4				
6	4	6	4	--	--	--	--	--	--	--	2.50/21	2.75/4	3.00/5	2.00/2	1.75/4	2.00/2	3.00/4				
7	5	7	5	2.16/18	***1	2.25/4	1.50/2	1.40/5	4.00/2	2.25/4	2.91/20	3.00/3	3.20/5	2.50/2	1.75/4	5.00/2	3.00/4				
8	6	8	6	2.17/17	***0	2.00/4	1.50/2	1.60/5	3.50/2	2.75/4	2.80/18	***1	3.00/5	2.50/2	1.50/4	4.50/2	3.25/4				
9	7	9	7	2.68/22	4.25/4	2.00/4	2.33/3	1.60/5	4.00/2	2.75/4	3.00/21	3.75/4	3.00/5	2.50/2	1.50/4	5.00/2	3.00/4				
10	8	10	8	2.60/23	2.50/4	2.50/4	2.66/3	2.83/6	3.00/2	2.25/4	2.96/21	4.00/4	2.80/5	3.50/2	2.00/4	3.50/2	2.25/4				
11	9	11	9	3.04/23	3.25/4	2.00/4	3.00/3	3.50/6	3.50/2	3.00/4	2.79/21	3.00/4	2.60/5	2.50/2	2.75/4	3.00/2	2.25/4				
12	10	12	10	2.78/23	3.25/4	2.00/4	2.66/3	2.83/6	3.00/2	3.00/4	2.75/21	2.75/4	2.60/5	2.50/2	2.75/4	3.00/2	2.00/4				
13	11	13	11	2.61/18	***0	2.25/4	2.50/2	3.16/6	2.50/2	2.25/4	2.90/19	***1	2.60/5	3.00/2	3.00/4	4.00/2	2.40/5				
14	12	14	12	2.83/18	***0	2.00/4	3.00/2	3.16/6	3.50/2	2.75/4	2.75/18	***1	2.40/5	2.50/2	3.25/4	3.50/2	2.50/4				
15	13	15	13	2.55/18	***0	1.75/4	2.50/2	3.16/6	3.00/2	2.25/4	2.90/18	***1	2.60/5	2.50/2	3.25/4	3.00/2	2.50/4				
16	14	16	14	3.52/23	4.00/4	4.00/4	3.00/3	3.33/6	3.50/2	3.25/4	3.61/20	4.33/3	3.40/5	3.50/2	3.50/4	3.00/2	3.75/4				
17	15	17	15	3.50/18	***0	4.00/4	3.00/2	3.66/6	3.00/2	3.25/4	3.50/18	***1	3.40/5	3.50/2	3.50/4	3.00/2	3.50/4				
18	16	18	16	3.60/23	4.00/4	3.00/4	3.66/3	3.50/6	4.50/2	3.50/4	3.22/20	3.67/3	2.60/5	2.50/2	3.50/4	4.00/2	2.50/4				
19	17	19	17	3.55/18	***0	3.00/4	3.50/2	3.66/6	4.50/2	3.50/4	3.25/18	***1	2.60/5	2.50/2	4.00/4	3.50/2	3.00/4				
20	18	20	18	2.30/20	3.50/2	2.50/4	2.33/3	1.40/5	3.50/2	2.00/4	2.87/20	3.33/3	3.20/5	2.00/2	2.50/4	4.00/2	2.59/4				
21	--	21	--	3.13/22	3.75/4	3.75/4	2.66/3	2.60/5	4.50/2	2.25/4	--	--	--	--	--	--	--				
22	--	22	--	2.76/21	4.00/3	3.25/4	3.33/3	1.40/5	3.50/2	2.25/4	--	--	--	--	--	--	--				
23	--	23	--	2.28/21	2.33/3	1.50/4	3.00/3	1.80/5	4.00/2	2.25/4	--	--	--	--	--	--	--				
24	--	24	--	2.09/21	2.00/3	1.50/4	2.66/3	2.20/5	3.00/2	1.75/4	--	--	--	--	--	--	--				
25	19	25	19	2.47/23	3.25/4	2.50/4	2.66/3	1.66/6	3.00/2	2.50/4	2.38/21	2.75/4	1.60/5	2.00/2	2.50/4	2.50/2	2.25/4				
26	20	26	20	3.08/23	3.25/4	2.00/4	2.33/3	3.66/6	4.50/2	3.00/4	3.58/21	3.75/4	3.40/5	3.00/2	4.50/4	3.00/2	3.75/4				
27	21	27	21	2.95/21	3.50/4	2.50/4	3.00/2	2.60/5	2.50/4	2.96/21	2.75/4	2.80/5	4.00/2	2.75/4	4.00/2	3.00/2	2.50/4				

\*\*\*Data not available or reportable due to low N.

Table 1 (Continued)

Survey Item		First Survey (April 1977)										Second Survey (September 1977)												
		Overall X/N	EXEC X/N	ENG X/N	NAV X/N	OPS X/N	SUP X/N	WEP X/N	Overall X/N	EXEC X/N	ENG X/N	NAV X/N	OPS X/N	SUP X/N	WEP X/N									
Apr.	Sept.																							
27	22	2.76/21	3.00/4	2.00/4	3.00/2	2.80/5	4.50/2	2.25/4	2.88/21	3.00/4	2.40/5	4.00/2	2.75/4	3.00/2	2.50/4	2.88/21	3.00/4	2.40/5	4.00/2	2.75/4	3.00/2	2.50/4	2.50/4	2.50/4
28	23	2.95/21	4.00/4	2.25/4	1.50/2	2.60/5	4.50/2	3.00/4	2.67/21	2.75/4	2.80/5	3.50/2	1.50/4	3.00/2	2.00/4	2.67/21	2.75/4	2.80/5	3.50/2	1.50/4	3.00/2	2.00/4	2.00/4	2.00/4
29	24	2.66/21	3.25/4	2.25/4	3.00/2	1.80/5	3.50/2	3.00/4	3.00/21	3.00/4	3.00/5	4.50/2	2.25/4	3.50/2	2.50/4	3.00/21	3.00/4	3.00/5	4.50/2	2.25/4	3.50/2	2.50/4	2.50/4	2.50/4
30	25	3.61/21	3.50/4	4.00/4	4.00/3	4.00/5	****1	2.50/4	3.17/21	3.00/4	3.20/5	4.00/2	3.25/4	3.00/2	2.75/4	3.17/21	3.00/4	3.20/5	4.00/2	3.25/4	3.00/2	2.75/4	2.75/4	2.75/4
31	--	2.68/22	2.75/4	2.75/4	3.00/3	2.20/5	3.50/2	2.50/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
32	--	3.27/22	4.00/4	3.00/4	3.00/3	2.80/5	3.50/2	3.50/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
33	26	3.36/22	3.25/4	3.25/4	3.33/3	3.60/5	4.00/2	3.00/4	2.52/20	2.75/4	2.50/4	3.00/2	2.75/4	2.00/2	2.50/4	2.52/20	2.75/4	2.50/4	3.00/2	2.75/4	2.00/2	2.50/4	2.50/4	2.50/4
34	--	3.04/22	3.75/4	2.75/4	3.00/3	3.00/5	3.00/2	2.75/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
35	27	3.24/21	4.00/4	3.00/3	2.66/3	3.40/5	3.00/2	3.00/4	2.91/20	3.25/4	2.50/4	3.00/2	3.25/4	2.00/2	3.50/4	2.91/20	3.25/4	2.50/4	3.00/2	3.25/4	2.00/2	3.50/4	3.50/4	3.50/4
36	--	3.14/22	3.50/4	3.25/4	3.00/3	3.00/5	4.00/2	2.50/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
37	--	3.10/20	3.00/3	2.75/4	2.50/2	3.00/5	4.50/2	3.25/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
38	28	2.91/22	3.00/4	2.50/4	2.33/3	3.40/5	3.00/2	3.00/4	3.22/20	3.25/4	3.50/4	3.50/2	3.50/4	2.50/2	3.25/4	3.22/20	3.25/4	3.50/4	3.50/2	3.50/4	2.50/2	3.25/4	3.25/4	3.25/4
39	29	3.91/22	4.25/4	4.50/4	3.33/3	3.80/5	5.00/2	3.00/4	3.17/20	2.75/4	4.00/4	3.50/2	3.25/4	3.50/2	3.00/4	3.17/20	2.75/4	4.00/4	3.50/2	3.25/4	3.50/2	3.00/4	3.00/4	3.00/4
40	--	3.18/22	2.75/4	3.75/4	2.66/3	3.20/5	4.50/2	2.75/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
41	--	3.27/22	2.25/4	2.75/4	3.66/3	3.40/5	4.50/2	3.75/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
42	30	2.78/23	3.25/4	2.25/4	3.00/3	2.83/6	3.50/2	2.25/4	2.96/21	3.25/4	2.80/5	3.50/2	2.50/4	3.50/2	2.75/4	2.96/21	3.25/4	2.80/5	3.50/2	2.50/4	3.50/2	2.75/4	2.75/4	2.75/4
43	31	2.83/23	3.25/4	2.25/4	3.33/3	2.83/6	3.50/2	2.25/4	2.79/21	2.75/4	3.00/5	3.50/2	2.25/4	3.50/2	2.50/4	2.79/21	2.75/4	3.00/5	3.50/2	2.25/4	3.50/2	2.50/4	2.50/4	2.50/4
44	32	--	--	--	--	--	--	--	2.58/21	2.50/4	2.20/5	2.50/2	2.25/4	3.50/2	2.50/4	2.58/21	2.50/4	2.20/5	2.50/2	2.25/4	3.50/2	2.50/4	2.50/4	2.50/4
45	33	--	--	--	--	--	--	--	3.13/21	3.25/4	3.00/5	3.00/2	3.00/4	3.50/2	2.75/4	3.13/21	3.25/4	3.00/5	3.00/2	3.00/4	3.50/2	2.75/4	2.75/4	2.75/4
46	--	--	--	--	--	--	--	--	2.46/21	2.75/4	2.20/5	2.00/2	2.50/4	2.00/2	2.25/4	2.46/21	2.75/4	2.20/5	2.00/2	2.50/4	2.00/2	2.25/4	2.25/4	2.25/4
47	34	2.78/23	2.75/4	2.25/4	3.33/3	2.83/6	3.50/2	2.50/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
48	--	2.82/23	3.00/4	2.25/4	3.33/3	2.83/6	3.50/2	2.50/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
49	35	2.39/23	3.00/4	1.50/4	2.33/3	2.66/6	2.00/2	2.50/4	2.42/21	2.75/4	2.20/5	2.00/2	2.50/4	2.50/2	2.25/4	2.42/21	2.75/4	2.20/5	2.00/2	2.50/4	2.50/2	2.25/4	2.25/4	2.25/4
50	36	2.86/23	3.25/4	2.25/4	3.00/3	3.16/6	3.00/2	2.50/4	2.96/20	3.00/4	2.40/5	3.00/2	3.00/4	4.00/3	2.75/4	2.96/20	3.00/4	2.40/5	3.00/2	3.00/3	4.00/2	2.75/4	2.75/4	2.75/4
51	37	3.00/23	3.50/4	2.50/4	3.00/3	3.16/6	3.50/2	2.50/4	3.38/21	3.25/4	3.40/5	3.50/2	3.25/4	3.50/2	3.00/4	3.38/21	3.25/4	3.40/5	3.50/2	3.25/4	3.50/2	3.00/4	3.00/4	3.00/4
52	38	3.13/23	3.75/4	2.50/4	3.66/3	3.16/6	3.50/2	2.50/4	3.42/21	3.75/4	3.20/5	3.50/2	3.00/4	3.50/2	3.00/4	3.42/21	3.75/4	3.20/5	3.50/2	3.00/4	3.50/2	3.00/4	3.00/4	3.00/4
53	39	2.56/23	3.50/4	1.50/4	2.66/3	2.50/6	2.50/2	2.75/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54	--	2.65/23	3.50/4	1.50/4	3.00/3	2.66/6	2.50/2	2.75/4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

\*\*\*Data not available or reportable due to low N.

Table 1 (Continued)

Survey Item		First Survey (April 1977)							Second Survey (September 1977)						
		Overall X/N	EXEC X/N	ENG X/N	NAV X/N	OPS X/N	SUP X/N	WEP X/N	Overall X/N	EXEC X/N	ENG X/N	NAV X/N	OPS X/N	SUP X/N	WEP X/N
52	--	2.65/23	3.00/4	2.25/4	3.00/3	2.50/6	2.50/2	2.75/4	--	--	--	--	--	--	--
53	--	1.73/23	1.75/4	1.50/4	2.00/3	1.33/6	2.50/2	2.00/4	--	--	--	--	--	--	--
54	--	2.27/22	3.75/4	1.75/4	1.00/2	2.00/6	3.00/2	2.00/4	--	--	--	--	--	--	--
55	--	2.13/23	2.50/4	1.25/4	2.66/3	2.33/6	2.00/2	2.00/4	--	--	--	--	--	--	--
56	--	2.60/23	3.75/4	1.50/4	2.66/3	2.50/6	3.00/2	50/4	--	--	--	--	--	--	--
57	--	2.60/23	3.75/4	1.75/4	2.66/3	2.33/6	3.00/2	2.50/4	--	--	--	--	--	--	--
39	39	3.04/22	2.50/4	3.40/4	2.33/3	3.20/5	3.00/2	2.50/4	3.41/19	3.00/4	4.25/4	3.00/2	4.00/3	3.50/2	3.00/4

## MAP Follow-through

Clarity of Priorities. Respondents were asked (Items 19<sub>1</sub> and 18<sub>2</sub>) to indicate the proportion of the time they felt their supervisor had maintained clear priorities among the MAP goals during the planned period. In the first survey, the overall average response was 33 percent, ranging from 10 percent (OPS) to 63 percent (EXEC and SUP), with the remaining departments clustering in the 25 to 40 percent range. In the second, responses for four of the six departments had increased, thus increasing the overall average response to 46 percent, ranging from 25 percent (NAV) to 75 percent (SUP).

Authority vs. Priority. In the initial survey, respondents were asked (Items 20-23<sub>1</sub>) to indicate the extent to which they felt MAP goal priorities reflected the priorities of the CO, their supervisors, themselves, and their subordinates. Overall, responses indicated that goal priorities of those at higher levels in the command hierarchy were most influential on MAP goal priorities. Within the departments, the following response patterns emerged:

1. WEP--MAP goal priorities were seen as being equally influenced by the priorities of the CO, the respondent, and his supervisor, and slightly less influenced by those of the respondent's subordinates.
2. EXEC and ENG--MAP goal priorities were seen as largely reflecting those of the CO and supervisors, and being little influenced by those of the respondent and his subordinates.
3. SUP--A decentralized pattern emerged where MAP goal priorities reflected those of the CO and the respondent more than those of the respondent's supervisor and subordinates.
4. OPS--MAP goal priorities were seen as being most influenced by those of the CO and the respondent's subordinates.
5. NAV--MAP goal priorities were seen as being more influenced by those of the respondent and his supervisor than by those of the CO or the respondent's subordinates.

This item was not included in the second survey.

Control: Frequency and Content of Progress Reviews. Respondents were asked to indicate (1) the frequency of reviews of their group's progress toward work goals (Items 25<sub>1</sub> and 20<sub>2</sub>) and (2) the extent to which such reviews considered technical data, personnel data, and changes in operational schedule (Items 26-28<sub>1</sub> and 21-23<sub>2</sub>). In the first survey, the overall response was that reviews were held monthly, on the average, with a range from biweekly (ENG and NAV) to less than quarterly (SUP). In the second, the overall response showed a sizable shift toward less frequent reviews: NAV and SUP reported that, on the average, reviews were held monthly; OPS, between 3 and 6 months; and the others, between monthly and quarterly. In both surveys, respondents reported that technical data, personnel data, and changes in the ship's schedule were "often considered" in the progress reviews. However, in the second, OPS, WEP, EXEC, and SUP reported that schedule changes received less consideration; ENG and NAV, more consideration.



### Personnel Outcomes

System Perspective. Respondents were asked (Items 4-8<sub>1</sub> and 2-7<sub>2</sub>) to indicate to what extent their participation in MAP had increased their understanding of the ship's mission and the responsibilities of their department, other departments (survey 2 only), their division, other divisions in their department, and their job. Overall results showed that respondents felt that MAP had had little to moderate effect on their understanding of mission or responsibilities. Responses of the various departments are examined separately below:

1. OPS--In both surveys, OPS consistently reported that MAP had had little effect on their understanding.
2. ENG--In the first survey, ENG reported that MAP had had low to moderate effect on their understanding. However, in the second, ENG reported that MAP's effect had increased considerably on all indices.
3. EXEC--In both surveys, EXEC claimed that MAP had had moderate effects on understanding of the ship's mission and own department responsibilities, and from moderate to great effects on understanding of own job.
4. NAV--In the first survey, NAV indicated that MAP had had low to moderate effect on all indices. In the second, there was a notable rise in perceived effect at the ship and division level.
5. WEP--In the first survey, WEP reported low to moderate effects at all levels. In the second, there was an increase to a moderate understanding at all levels.
6. SUP--In the first survey, SUP indicated that MAP had had a moderate effect on understanding of the ship's mission and a moderately great effect on understanding of own department, division, and job responsibilities. In the second, SUP indicated that MAP had had a great effect on understanding of own department, division, and job and little effect on understanding of ship's mission or other departments' responsibilities.

Commitment to Goals. Respondents were asked (Items 24<sub>1</sub> and 19<sub>2</sub>) what proportion of their work group members were strongly committed to the group's MAP goals. In the first survey, the overall average response was 35 percent, with a range from 17 percent (OPS) to 50 and 56 percent (SUP and EXEC). In the second, the overall average response was essentially the same; however, the response given by OPS had risen dramatically--from 17 to 37 percent, which was offset by decreases in estimates of four other departments.

### Unit Outcomes

Value of Progress Reviews. Respondents were asked (Items 29<sub>1</sub> and 24<sub>2</sub>) to indicate, on a scale ranging from "highly negative" to "highly positive," the value of reviews of progress made toward MAP goals. In the first survey, the overall average response was slightly negative, with OPS and ENG claiming that the effect was "moderately negative"; NAV and WEP, "neither positive nor negative"; and EXEC and SUP, "slightly positive."

In the second survey, the overall average response shifted upward to "neither positive nor negative," with the average responses of OPS, ENG, and NAV becoming more positive; SUP, remaining constant; and WEP and EXEC, becoming more negative.

Effort Required. Respondents were asked (Items 30<sub>1</sub> and 25<sub>2</sub>) to indicate how much extra effort was required for MAP planning and implementation. In the first survey, the overall average response fell between "moderate" and "much," with WEP estimating the least extra effort required, and OPS, NAV, SUP, and ENG, the most. In the second survey, the overall average response was reduced to "moderate," except for NAV, which still claimed "much."

Potential Benefit/Cost Ratio of MAP. Respondents were asked (Items 58<sub>1</sub> and 39<sub>2</sub>) to indicate the potential benefit/cost ratio they anticipated from MAP. Responses were to be made on a scale ranging from "benefits will far outweigh costs" to "benefits will be far exceeded by costs." In the initial survey, WEP, EXEC, and NAV estimated that benefits to be gained would slightly outweigh costs; OPS and SUP, that benefits and costs would balance out; and ENG, that costs would very significantly exceed benefits. In the second, WEP, EXEC, and NAV had moderated their positions--claiming that benefits and costs would balance out; and SUP, OPS, and ENG reported varying levels of costs exceeding benefits.

Unit Performance. Respondents were asked (Items 42-48<sub>1</sub> and 30-38<sub>2</sub>) to indicate how much effect MAP had had on the following dimensions of unit performance:

1. Quantity of work group output.
2. Quality of work group output.
3. Grievance rate (survey 1 only).
4. Absenteeism (survey 1 only).
5. Work group morale (survey 2 only).
6. Ship/department mission performance (survey 2 only).
7. Avoiding crises (survey 2 only).
8. Dealing with crises.
9. Safety discrepancies.
10. Goal achievement.
11. Milestones met.

In the first survey, the overall average response indicated that MAP had had a slightly negative effect on dealing with crises, a very slight positive effect on milestones met, and no effect on the other six dimensions. In the second, the overall average response indicated that MAP had had a slightly negative effect on work group morale, avoiding crises, and dealing with crises; a slightly positive effect on goal achievement and milestones met; and no effect on the other four dimensions. Department means varied considerably, with about half claiming some degree of negative effect; one sixth, no effect; and one third, some degree of positive effect.

## Problems and Prospects

Implementation Problems. Defee (1977) and Stein (1975) identified 11 common problem areas during implementation of Management by Objectives (MBO) programs:

1. Group problem solving.
2. Consistency of application.
3. Continuity of personnel.
4. Adequacy of the review process.
5. Integration into the management system.
6. Goal measureability.
7. Supervisory training.
8. Management commitment.
9. Time consumed.
10. Subordinate participation.
11. Policy flexibility.

The NAVPERSRANDCEN evaluation team was interested in determining the severity of problems encountered in those areas during MAP implementation. Thus, in the first survey, respondents were presented with a list of those areas (Items 31-41<sub>1</sub>) and asked to rate the severity of any problems experienced therein. The overall average response indicated that problems encountered were moderate in all areas except for time consumed, which was high. Department ratings varied considerably: For example, "time consumed" was rated as most severe by all except NAV and WEP, who reported "policy flexibility" as most troublesome. There was little agreement as to the second most severe problem.

In the second survey, respondents were asked (Items 26-29<sub>2</sub>) to indicate the severity of problems encountered in only four of the above areas: Continuity of personnel, integration into the management system, management commitment, and time consumed. Results of this survey showed a decrease in severity in two areas: time consumed and continuity of personnel. Overall, respondents rated problems of personnel as low/moderate; and those in the other three areas, as moderate.

MAP Potential for Improving Output. In the first survey, respondents were asked (Items 50-57<sub>1</sub>) to estimate, on a scale from "none" to "very high," the extent of MAP's potential for improving the output dimensions listed below. Responses were to be based on their experiences with MAP up to the time of the survey.

1. Quantity of output or performance.
2. Quality of output or performance.
3. Grievance rate.
4. Absenteeism.
5. Crisis management.
6. Safety discrepancies.
7. Goal achievement.
8. Milestones met.

Overall, respondents indicated that they expected MAP to have very little effect on absenteeism, low effect on crisis management and safety discrepancies, and low/moderate effect on the others. Department expectations

for the MAP technique varied; that is, six of the eight output dimensions--all but absenteeism and safety discrepancies--were perceived as being most affected by MAP by some department.

### Structured Interviews

#### MAP Sessions

In the structured interviews held during the period from 20 May through 15 June 1977, division officers and chief petty officers stated that the MAP sessions:

1. Established a long-range schedule and identified associated goals but provided no help in accomplishing those goals.
2. Gathered the whole department together away from the ship (a unique event) and facilitated improved understanding among divisions because of the resulting communication.
3. Provided an opportunity to negotiate the division's schedule with the department head in the context of other activities required of the division.
4. Provided a psychological lift wherein departmental personnel developed shared goals and enthusiasm (however, this effect dissipated over time).
5. Sharpened management skills and provided labels for techniques presently being used.
6. Brought the command's managerial and supervisory personnel together and provided an opportunity for everyone to communicate and coordinate activities.
7. Provided a unique opportunity to learn the nature of the command's goals and priorities.
8. Indicated that it is more important to emphasize goal accomplishment than record keeping.
9. Provided an opportunity for the officers and chiefs to receive the CO's goals and priorities directly.

#### Management Practices and Procedures

The division level interviews revealed that management practices at that level were largely unchanged; that is, whether scheduling, assignment, control, and feedback functions had been handled by the division officer and leading chief or had been delegated downward, the practice continued. However, some interviewees claimed that their own planning had been positively affected by knowledge of command goals and priorities, the ship's long-range schedule, and the XO's monthly planning calendar (disseminated as a result of MAP's new planning emphasis). Other management effects cited by interviewees included:

1. New awareness of lack of planning.
2. Increasing communication and cooperation at the division level.
3. Stronger team feeling at the division level.
4. Greater interaction between divisions.
5. Better documentation of accomplishments.
6. More participation by lower level personnel.
7. More lead time created for getting things done.

In many cases, the effects cited above were counterbalanced by opposite information offered by other interviewees. In any event, the general pattern appeared to be that planning was accomplished at the department and division level, with persons below the supervisory level having little knowledge of or participation in planning.

From the perspective of the department heads, MAP's primary effect on managerial practice was to give them an opportunity (1) to listen to subordinates and to respond to their problems, (2) to obtain subordinates' ideas, thus allowing them to develop more realistic plans, and (3) to foster a longer planning horizon. They claimed that awareness of command goals allowed them to incorporate these goals into their plans and behaviors.

Although the variability in management practices and procedures among different departments and divisions was not reduced by MAP, as instituted aboard FOSTER, it appeared to have differential effects at the department and division levels. For example, interviewees often reported that, even though MAP often was not practiced at the division level, they considered it useful at the department level because it (1) facilitated a longer range planning horizon, (2) provided a better basis for establishing priorities, and (3) increased interdepartmental coordination. On the other hand, they felt MAP was only partially implemented at the upper levels due to lack of follow-through by top management.

#### Individual and Unit Performance

Reported effects on individual performance ranged from positive to negative; many reported that MAP had no effects. Positive effects included:

1. Higher satisfaction.
2. Better quality.
3. Reduced confusion, which resulted in greater productivity.
4. Higher motivation due to greater involvement of lower level personnel.
5. Increased enthusiasm among planning session participants.
6. Better working relationships.
7. A less frustrating work situation.

Negative effects cited included (1) lost time, (2) poorer performance due to excessive downward delegation, and (3) lower motivation due to interference with existing programs and procedures.

Although interviewees claimed that MAP had a broad range of effects on unit performance, these reports were sometimes contradictory. For example, some interviewees stated that goal accomplishment had not been affected; others,

that it had been reduced; and still others, that it had been both improved and deteriorated.

Some department heads felt that MAP was related to unit performance, although its impact could not be measured without a control group. They felt that a management system such as MAP was necessary in preparing for large-scale events such as inspections. It not only provided a vehicle for planning such events but also for measuring unit performance on those events. Use of MAP was seen as important to their confidence in preparing for large events.

#### Level of Crisis Management

According to interview results, it is apparent that MAP did not eliminate or perceptibly lessen the level of crisis management. Crises (unplanned events) themselves, of course, cannot be eliminated; the extremely dynamic shipboard environment requires continually changing plans and priorities. However, MAP does give the manager a larger perspective for adapting those plans, especially in regard to large, complex events such as inspections (as noted above).

FOSTER personnel expressed a variety of opinions regarding MAP's effect on crisis management. Some felt that the situation was worse, due to the "lost" time and resources invested; others, that the situation was unchanged; and still others, that their ability to cope with short-fuse external demands had improved, particularly because of interdepartmental cooperation and the work situation at the work center level.

#### Measures of Performance

The following measures relevant to FOSTER's performance were available for the calendar year 1977:

1. The percentage of planned maintenance subsystem (PMS) actions accomplished.
2. Reenlistment rates.
3. Training Exercise/Inspection Reporting System results.
4. Listing of predeployment operational inspections.
5. Listing of number of unauthorized absences.
6. Results of advancement exams.

Only the first three measures listed above are associated with MAP goals. Thus, they are discussed in some detail below; and the latter three, only briefly.

#### Planned Maintenance Subsystem (PMS)

Two measures of PMS action accomplishment were obtained. The first was a statistical summary of grades received as the result of a 3-M (Maintenance and Material Management) system inspection, which reflected the number of PMS actions accomplished by all ship departments and divisions for a 3-month period. The overall 3-M inspection grade includes a confidence factor, which is subtracted from the actual grade to account for "gundecking"

(i.e., false reports of task completion). FOSTER's overall grade was 68 percent, which is a satisfactory rating, and that for the Weapons Department was 75 percent.

The second measure obtained reflected the number of PMS actions scheduled and completed by the WEP work centers. These data are maintained at the division level in response to one of the command goals, which is "to measure the effectiveness of each PMS work center by January 1977 and to report that effectiveness monthly thereafter . . . and to improve that effectiveness by 25 percent by 1 April 1977." Examination of these data indicates that five of the seven WEP work centers met or exceeded command goals. The remaining two work centers met their improvement goal by 1 June.

To facilitate comparison with the 3-M inspection results, the PMS actions accomplished by seven WEP work centers from August through October 1977 were summarized. Results are provided in Table 2, which shows that the average rate of PMS actions accomplished ranged from 43 to 100 percent (indicating that goals for specific centers may have been somewhat different). The important finding, however, is that the PMS records maintained by the work centers indicated that an average of 70 percent of the overall PMS actions had been accomplished, while the independent 3-M inspection results for the same period indicated that 75 percent had been accomplished. Thus, the weekly reports are fairly consistent with the formal inspection record. From this finding, it may be concluded that the work center records are sensitive management tools that can be used (1) to estimate the number and percent of PMS actions accomplished, (2) to measure goal accomplishments that are MAP outcomes, and (3) to help monitor progress in PMS actions accomplished, providing weekly feedback to all levels in FOSTER's hierarchy.

Table 2  
PMS Actions Accomplished--Weapons Department

Work Center	August (%)	September (%)	October (%)	Average (%)
WA01	58	100	79	79
WS09	32	27	69	43
WW01	70	64	81	72
WF01	- <sup>a</sup>	40	55	48
WF02	75	48	80	68
WG01	67	88	78	78
WG02	100	100	100	100
Average	67	67	77	70

<sup>a</sup>Data was not available for this month.

### Reenlistment Rates

A command goal was "to achieve a first-term reenlistment rate of 50 percent and a career reenlistment rate of 100 percent of individuals identified by division officers as particularly desirable by 1 April 1977." An examination of reenlistment rates achieved in 1977, as provided by Table 3, shows that the goal for first-term reenlistments was achieved during the second quarter but not for the remaining quarters, and that the goal for career reenlistment rates was reached for three of the four quarters. The command committed itself to improving these reenlistment rates at the MAP session held in October 1977.

Table 3

FOSTER Reenlistment Rates, 1977

Quarter	First Term			Career		
	Number Eligible	Number Reenlistment	Percent Reenlistment	Number Eligible	Number Reenlistment	Percent Reenlistment
1st	10	1	10	2	2	100
2nd	4	2	50	4	4	100
3rd	7	3	43	5	3	60
4th	4	1	25	1	1	100

### Training Exercise/Inspection Reporting System

Under this system, the training exercises held each month (N = 59) are evaluated and classified into four categories of readiness. Accordingly, one of the command goals was that performance on all training exercises be rated in the highest readiness category by 30 June 1977.

Table 4 is a breakdown of training exercises assigned to the various readiness categories for the 6-month period from March to August. As shown, the ship made substantial improvements in training readiness during this reporting period. In March, only 3 percent of the training exercises were rated in the highest readiness category, compared to 75 percent for July. While the goal was not met completely, it appears that it may have been unrealistic.



Table 4

## FOSTER Training Exercises Assigned to Various Readiness Categories

Date <sup>a</sup>	Readiness Category								Total	
	1		2		3		4			
	No.	%	No.	%	No.	%	No.	%	No.	%
7 March	2	3	9	15	15	25	33	56	59	99
11 April	7	12	9	15	17	29	26	44	59	100
10 May	28	47	3	5	5	8	23	39	59	99
9 June	29	49	3	5	5	8	22	37	59	99
23 July	44	75	2	3	2	3	11	19	59	100
8 August	44	75	2	3	2	3	11	19	59	100
	<u>154</u>		<u>28</u>		<u>46</u>		<u>126</u>		<u>354</u>	

Note. Due to rounding errors, totals do not always equal 100 percent.

<sup>a</sup>A 1-month time lag exists in the reporting system; thus, the training exercises completed in June are not reported until July.

#### Others

Predeployment Operational Inspections. During the period from June through November 1977, FOSTER successfully completed 15 predeployment inspections. This large number may indicate the tight schedule, in terms of planning and coordination, under which the ship was operating.

Some of the positive effects of having successfully completed these inspections may be related to positive attitudes shown toward MAP at the end of the evaluation period; that is, the planning by the various departments apparently paid off during inspections.

Unauthorized Absences. Although the command had no specific goal with respect to the maximum number of unauthorized absences, a ship preparing for deployment can be expected to attempt to reduce the number. Information provided by FOSTER showed that the number of such absences generally declined over the year, with some variation during the summer months.

Advancement Exams. Information provided by FOSTER on results of advancement exams indicate that ship personnel who take such exams appear to be well prepared. For example, during 1977, 16 and 14 persons took the E-5 and E-6 exams respectively. Only 1 person in each group failed to pass.

## Method of MAP Implementation

### Interview Data

The interview data were coded for problems encountered in MAP implementation and factors affecting success in such implementation.

Problems noted by interviewees were:

1. Constant updating of plans required.
2. Lack of interim departmental update meetings during the planned period.
3. Loss of psychological momentum and lack of "recharging" during the planned period.
4. Interdependence among departments in planning (e.g., foreseeing requirements and making them known to other departments in advance).
5. Long lead time required for planning.
6. Dealing with unrealistically elevated expectations.
7. Working relationships and managerial styles of managers and supervisors.
8. Additional paperwork required.
9. Number and size of events planned.
10. Lack of experience in estimating time required to complete tasks.
11. Lack of training in group dynamics needed for leading planning groups.

Interviewees felt that the following factors were important to successful MAP implementation:

1. The XO's monthly planning calendar.
2. The work center deficiency logs.
3. The routineness (predictability) of the unit's tasks.
4. The flexibility allowed in adapting MAP to department and division needs.
5. The time and resources allowed for planning and reporting.
6. Communication along the department hierarchy and across department and division boundaries.

7. Anticipating and dealing with the inevitable cycle of elevation and disillusionment with respect to hopes, expectations, enthusiasm, and frustrations.

8. Managerial styles, personnel abilities, and existing systems and procedures.

9. Periodic upper management review and support.

10. Discretion in MAP application.

#### Observational Data

The observation of MAP sessions also yielded information about factors affecting the success of MAP implementation. First, a unique situation was created by the convergence of three contextual factors:

1. The off-site location, creating necessary physical and mental isolation from daily demands.

2. The presence of essentially all managerial and supervisory personnel--down to the division level--in one place at the same time.

3. The dedication of a certain period of time (1 or 2 days) to planning.

Second, it was noted that MAP session participation resulted in:

1. An opportunity to bring into the open any frustrations--this appeared to be prerequisite to problem solving.

2. An increased feeling of unity, built on the CO's strong commitment to MAP, and the fact that command goals and priorities were set forth and actively implemented.

3. Increased commitment of managerial and supervisory personnel, which seemed to develop as the various levels participated in forming plans.

4. Increased perceptions of personal control, due to the proactive behavior required in planning.

Third, the MAP implementation was favorably affected by the common format of each MAP session, which included (1) a review of the results of plans for the previous planning period, (2) dissemination of the task/event schedule for the next period, (3) concurrent department planning meetings, and (4) departmental reporting to the whole group. The only requirement imposed by the CO was that department goals and milestones be available in written form. These plans were not required to directly address the CO's goals; rather, department heads and division officers were free to adapt MAP to suit their units and their own managerial styles. An emergent requirement, created by the participants themselves during the planning process, was interdepartment coordination on shared responsibilities.

Finally, MAP implementation was undoubtedly affected by the characteristics of participating personnel. The CO was thoroughly acquainted with HRMC capabilities, because of previous duty at Pers-06. Thus, he was able to play a very active role in planning for the HRAV and the initial MAP session. Since the XO had been trained as an operations analyst, he was able to bridge the gap between theoretical and practical MAP implementation. Finally, the department heads, division officers, and chief petty officers were highly motivated and aggressive, possessed high standards, and demonstrated expertise and leadership abilities. These characteristics indicated that these managerial personnel were a highly selected commissioning crew.

## DISCUSSION

### Management Action Planning Sessions

In general, the Management Action Planning (MAP) sessions were effective in producing department and division plans for accomplishing the events scheduled for the next 3 to 6 months. Experience indicated that the plans could be improved by setting fewer goals, including only those requiring major resource expenditures over considerable periods of time, thus reducing both the effort and costs of planning. Although only 40 to 50 percent of the goals were judged to be realistic by the participants, their feasibility could only be improved, in most cases, by external agencies that set inspection dates, performance requirements, manning levels, and rotation and training dates.

An important benefit of the MAP sessions was improved lateral and vertical communication. The sessions provided an opportunity for the CO to state his goals and priorities, for subordinates to voice their problems and ideas, for superiors to listen and counsel, for divisions and departments to coordinate on joint tasks, and for all individuals and units to appreciate their interdependencies. This led to improved teamwork, adoption of shared goals, decreased competition or conflict, and increased efficiency in goal achievement.

All of the MAP sessions were held off the ship and involved most of the officers and chief petty officers, which was very important to MAP success. However, the three sessions were not equally effective: the first two covered 2 full days; and the third was concluded early on the morning of the second day. Although the format of the third was similar to that of the others, insufficient time was provided to develop preliminary goals, to coordinate and revise them, or to communicate them to the whole group. Planning cannot be completed in the hectic operational setting, and goals that are ambiguous and uncoordinated cannot be achieved. Because of the insufficient time allotted for the third session, detrimental effects may be experienced during the subsequent quarter.

### Follow-through Requirements

Some personnel were skeptical of making plans, since the dynamic environment aboard ship requires that they be updated almost daily to keep them current. This suggests that updating of plans is extremely important in the operational shipboard setting, and that follow-through, in terms of both command facilitation and control, is required on a frequently scheduled basis.

Survey results, corroborated by interviews, indicated that reviews of progress made toward goals were infrequent, the clarity of priorities was low, and plans were "filed" for most of the period they covered. Although Department Action Plans (DAPs) were to be available to the CO and XO, they were not collected or examined (with one exception).

Original procedures called for a monthly departmental meeting to update DAPs and for top managerial "troubleshooting" during the periods between MAP sessions. However, these meetings were not held. The only way department

heads could keep their plans current was by consulting the XO's monthly planning calendar (which was cited as a valuable planning aid). However, since time was not set aside for department heads or division officers to contribute to and coordinate changes, this method was not adequate for plan revision.

Other mechanisms for keeping plans current aboard FOSTER were (1) daily interactions along the command chain and (2) weekly progress reviews of work center deficiency logs, which were made by various levels of the command hierarchy, including the CO. Although these mechanisms are helpful, they tend to provide a short-range perspective, rather than the medium-range quarterly outlook provided by the command action plan (CAP) and the DAPs.

#### Effects on Crisis Management and Performance

FOSTER command and upper management personnel felt that the effects of MAP were beneficial, although not directly measurable, especially with respect to crisis management. They perceived external causes of crisis management as allowing very little control by shipboard personnel. Thus, MAP could not prevent crises, but it could, through improved efficiency and resource utilization, put the ship in a better position to deal with them.

As indicated previously in the Results section, survey respondents were asked to indicate how much effect they felt MAP had had on a number of unit performance dimensions, including dealing with crises. In both surveys, the overall response indicated that MAP had had a slightly negative effect on dealing with crises. This finding may reflect the difficulty that respondents had in perceiving any difference in their daily experiences, since they had no way to measure improvements.

In regard to the other performance dimensions, respondents in the first survey indicated that MAP had had no effect. These results can be partly explained by the fact that the ship was overwhelmed early in the first period by a major and enduring crisis, which essentially caused command personnel to abort any follow-through actions on their lower priority goals for the rest of that period. In the second survey, respondents indicated that MAP had had a slightly positive effect on milestones met and goal achievement. This improvement may be due to opportunity for greater utilization of plans during the second period.

Survey results also indicated that a moderate amount of extra effort is required for MAP. However, the fact that the estimated amount of extra effort required decreased somewhat in the second survey suggests that some learning was taking place and mechanisms were being created to decrease the amount of effort involved.

Finally, survey results indicated a shift in overall judgments of the benefit/cost ratio of MAP from slightly positive in the first survey to slightly negative in the second. From the interviews and analysis of survey results by pay grade, it appears that upper management continued to have relatively positive perceptions of the benefit/cost ratio of MAP. Thus, it appears that the overall survey averages reflect senior enlisted and division

officer disillusionment regarding avoidance of crises (benefit) and time consumed on planning and updating (costs). Continuation of MAP would require actions to improve this benefit/cost ratio.

Human costs are already quite low, due to the command's flexibility in implementing MAP. However, as new skills (e.g., in planning group leadership and group dynamics), mechanisms (e.g., direct interdepartmental communication channels), and perspectives (e.g., toward time horizons and need for coordination) are acquired or developed and integrated into the existing systems, procedures, and managerial styles of each unit, the MAP technique will become more efficient, requiring less time and effort. As a consequence, human costs will be reduced.

As to benefits, interviewees suggested that they might be broadened to include not only the general dimensions of individual and unit performance and reduction in crisis management, but also such dimensions as managers' feelings of control, reduced worker frustration resulting from changes in plans, and success achieved in accomplishing specific goals identified in the plans. As noted earlier, expectations regarding benefits may not be entirely realistic as to either type or level of benefits to be gained. Each department had different expectations of MAP, as did various levels in the command hierarchy. If expectations were more accurate, less disillusionment would result from subsequent experience.

#### Lessons Learned in MAP Implementation

Obviously, there is no one correct way to implement MAP. As discussed earlier, a number of problems were encountered in implementing MAP aboard FOSTER and several factors were identified as contributing to its successful implementation. These problems and factors may or may not be unique to the combination of circumstances, tasks, people, and managerial characteristics found on FOSTER during the trial period.

The following points are noted in an attempt to draw some limited generalizations from FOSTER's experience:

1. MAP was used to supplement existing techniques, not to replace them. Its purpose was to extend managerial planning practices—not to modify the way a person "runs his shop." Since MAP is based on acquisition and use of complementary managerial skills rather than major changes, effort was minimized.
2. The CO encouraged participants to adapt MAP to suit their managerial style and departmental conditions. Thus, the technique was flexible enough to suit both participative and nonparticipative work situations.
3. MAP was allowed to sell itself by its demonstrated usefulness; it was not forced on participants. This process was facilitated by making time available and providing assistance as necessary.
4. Successful implementation of MAP requires that extra effort be minimized. This suggests training for skill acquisition, integrating MAP with existing practices, avoiding additional reporting requirements, etc.

5. To alleviate fears of FOSTER personnel that MAP could generate an additional external reporting requirement, thus compounding their existing burdens, the technique should remain a managerial tool, to be used at the discretion of the individual command. Its advantages would be negated, and it would become useless or even harmful if it were formalized and imposed on commands in blanket fashion.

#### Evaluation Research Methodology

Evaluation research, as embodied in this study, draws heavily on the action research model; that is, use of the techniques of experimental design and measurement to gain better understanding of practical problems while attempting to find their solution. Evaluation research usually requires the collaboration of several parties--in this case, the operators (FOSTER personnel), consultants (HRMC), and researchers (NAVPERSRANDCEN). Such collaboration should begin in the early planning stages, which, unfortunately, was not the case with this effort. In the planning stages, all collaborators should contribute to the questions and hypotheses addressed, the measures or indices used, the selection of measurement points, and other aspects of the evaluation design. It is unlikely that any one party will have a thorough understanding of all of the many practical, content, and research design issues involved.

In evaluation research efforts, the following theoretical, statistical, and design considerations should be satisfied:

1. Problems should be defined in terms of managerially significant, measurable behaviors, so that measurement of changes is possible.
2. Solutions (actions) should be examined for their total impact, not only on performance outcomes but also on interpersonal processes.
3. Hypotheses regarding effects and their mechanisms should be stated in advance so that measures can be developed and incorporated in the design.
4. The sample size should be greater than one.
5. Subjects should be randomly assigned to treatment and control conditions.
6. Treatments should be as strong as possible within practical limits.
7. To test a proposed solution, a well executed implementation is necessary; thus, planning should provide for such implementation and its adequacy should be examined as part of the evaluation.
8. Indices should include pre- and post-measures and/or trends.
9. Adequate time should be provided to allow changes to be stabilized.

Finally, in early stages of research regarding a particular phenomenon, multiple approaches--interviews, surveys, records, observations, etc.--should



be used. Since little may be known about the particular phenomenon and normative data may be lacking, use of multiple approaches provides a means for explaining results obtained, informally addressing reliability and validity, acquiring practical concepts and terminology, and gaining acquaintance with the operational setting. However, use of multiple approaches involves strategic questions of sequencing and balance for maximum effectiveness. Further, since trade-offs in terms of time and resource costs are inherent in the use of each approach, these must be considered in light of the situational requirements (e.g., quick feedback via surveys vs. exploratory soundings via interviews).

## CONCLUSIONS

From the results of this study, it is concluded that:

1. Management Action Planning (MAP) cannot prevent crises, but it can, through improved efficiency and resource utilization, put the ship in a better position for dealing with them.
2. MAP is a useful managerial tool when integrated into existing management systems, procedures, and practices, allowing for differences among departments and managers.
3. A major feature of MPA is its simplicity in terms of requirements and paperwork. It involves only setting goals in accordance with the ship's anticipated schedule and the emphasis of the command.
4. Because of the dynamic shipboard environment, MAP cannot be fully utilized or yield its full benefits unless periodic, scheduled follow-through is provided, including departmental and divisional review and updating of plans.
5. It was found that a number of conditions existing aboard FOSTER facilitated its success in implementing MAP. These conditions included particular situational characteristics, participation of all supervisors and managers, current procedures and requirements, and characteristics of managerial personnel.
6. A number of problems were identified during the trial period, which may be anticipated and dealt with in any application of MAP. These problems included time consumed, updating required, dealing with elevated expectations, selecting appropriate events for inclusion in plans, estimating time and resource requirements, and lack of training in group dynamics.
7. MAP is a managerial tool that is generally best utilized at the department and division levels. Little may be gained--at considerable cost in effort--by extending it below those levels.
8. Although FOSTER benefited from use of MAP, these benefits were not easily measured. Benefits included (a) improved communication within and among departments and divisions and up and down the command hierarchy, (b) accomplishment of some managerial goals created during MAP sessions, (c) improved mission performance, (d) better documentation of accomplishments, (e) reduction in crisis management due to internal problems, and (f) increased managerial confidence regarding progress in preparing for major events.
9. Costs relating to use of MAP slightly outweighed benefits received, according to division level personnel. However, the cost/benefit ratio could be improved by setting fewer goals, developing necessary skills by training, developing coordinating mechanisms, and aiding integration with existing management practices.
10. It is difficult to evaluate MAP as an end state, because learning how to use it continues to increase over time. As it becomes a natural process for managers and supervisors, both perceived and actual benefits will be improved, and costs reduced.



11. If MAP is to reach its full potential, it appears that further implementations should ensure that (a) MAP sessions are maintained as intact, regular events separated from the hectic, shipboard environment, (b) progress toward goals is monitored and plans are periodically updated, (c) flexibility is allowed in adapting MAP to managerial styles and departmental conditions, and (d), most importantly, it does not become just another paperwork exercise (i.e., "keep it simple"). It would also be desirable to establish accurate early expectations for the technique, and to develop quantitative indices for gauging success in coping with crisis management.

12. Collaborative evaluation research has potential for yielding valuable information for all parties concerned with operational management problems; thus, such research should be supported and encouraged.

The evaluation of the MAP technique aboard FOSTER is only the first step in dealing with the large, complex problem of crisis management. However, results suggest that crisis management is amenable to managerial innovations, and that such innovations--after their effectiveness and method of implementation have been evaluated--can be transmitted to other commands through training programs and use of external consultants, such as those available from HRMCs.

## RECOMMENDATIONS

Improvement in crisis management will require further research, development, test, and evaluation. To establish a base for ameliorative actions, the three parties involved--operational commands, consultants, and research/evaluation groups--must collaborate in pursuing the following actions:

1. The operational commands must take the lead to:
  - a. Create a rewarding climate for implementation of innovative approaches, including acceptance of failures of such approaches and recognition of informational gains that can be obtained from failures.
  - b. Develop an array of action alternatives that can be tested in operational settings.
  - c. Provide for consultation with personnel having special expertise; for example, those assigned to HRMCs, the Navy Postgraduate School, the Navy Manpower and Material Command, etc.
2. The consultants must take the lead to:
  - a. Develop a variety of approaches to implementation, such as individual and team problem solving, training, and procedural modifications.
  - b. Implement a wide range of management techniques, including means for evaluating their effectiveness and method of implementation.
  - c. Create a referral service comprised of persons having expertise in initial diagnosis and comprehensive knowledge of potential solutions to management problems.
3. Research/evaluation groups must take the lead to:
  - a. Develop improved instrumentation for organizational assessment and change measurement.
  - b. Determine the most efficient and effective management techniques and implementation methods, and the factors which should be considered in selecting and applying them.
  - c. Develop a method of systematically matching operational management problems with the optimal management technique and implementation method.

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APPENDIX A  
HUMAN RESOURCES MANAGEMENT SURVEY

[illegible]

- 1) In what extent does your supervisor encourage the members of your work group to give their best efforts?

4. Please use a soft pencil, and observe carefully these important requirements:

5. Questions about "this command" refer to the ship, squadron, or similar operational unit to which you are assigned. Questions about "your supervisor" refer to the person to whom you report directly. Questions about "your work group" refer to all those persons who report to the same supervisor as you do.

A. lowest level supervisor--supervisors of non-supervisory personnel or as defined by the survey administrator. (see question #59).

7. Below are examples for filling in side 1 of the answer sheet.

☐ Less than 1 month  
☐ 1 month but less than 6 mos.  
☒ 6 mos. but less than 1 year  
☐ 1 year or more

2	1	2	3	4	5	6	7
1	2	3	4	5	6	7	8

1. To what extent is the amount of information you get from other work groups adequate to meet your job requirements?
2. To what extent does this command do a good job of putting out the word to you?
3. To what extent is the chain of command receptive to your ideas and suggestions?
4. Decisions are made in this command at those levels where the most adequate information is available.
5. Information is widely shared in this command so that those who make decisions have access to available know-how.
6. When decisions are being made, to what extent are the people affected asked for their ideas?
7. To what extent do you feel motivated to contribute your best efforts to the command's mission and tasks?
8. To what extent are there things about this command (people, policies or conditions) that encourage you to work hard?
9. To what extent do people who work hard receive recognition from the command?
10. To what extent does this command have a real interest in the welfare and morale of assigned personnel?
11. To what extent are work activities sensibly organized in this command?
12. This command has clear-cut, reasonable goals and objectives that contribute to its mission.
13. I feel that the workload and time factors are adequately considered in planning our work group assignments.
14. People at higher levels of the command are aware of the problems at your level.
15. How friendly and easy to approach is your supervisor?
16. To what extent does your supervisor pay attention to what you say?
17. To what extent is your supervisor willing to listen to your problems?



18. When things are not going as well as your supervisor expects, to what extent is it easy to tell him/her?
19. To what extent does your supervisor attempt to work out conflicts within your work group?
20. To what extent does your supervisor encourage the people in your work group to exchange opinions and ideas?
21. To what extent does your supervisor encourage the people in your work group to work as a team?
22. To what extent does your supervisor stress a team goal?
23. To what extent does your supervisor encourage the members of your work group to give their best efforts?
24. To what extent does your supervisor expect high standards of performance from the members of your work group?
25. To what extent does your supervisor help you to improve your performance?
26. To what extent does your supervisor provide the assistance you need to plan, organize and schedule your work ahead of time?
27. To what extent does your supervisor offer you ideas to help solve job-related problems?
28. How friendly and easy to approach are the members of your work group?
29. When you talk with the members of your work group, to what extent do they pay attention to what you are saying?
30. To what extent are the members of your work group willing to listen to your problems?
31. To what extent do members of your work group take the responsibility for resolving disagreements and working out acceptable solutions?
32. To what extent do people in your work group exchange opinions and ideas?
33. How much do members of your work group encourage each other to work as a team?

34. How much do members in your work group stress a team goal?
35. How much do people in your work group encourage each other to give their best effort?
36. To what extent do people in your work group maintain high standards of performance?
37. To what extent do members in your work group help you find ways to improve your performance?
38. To what extent do members of your work group provide the assistance you need to plan, organize and schedule your work ahead of time?
39. To what extent do members of your work group offer each other ideas for solving job-related problems?
40. To what extent does your work group plan together and coordinate its efforts?
41. To what extent do you have confidence and trust in the members of your work group?
42. To what extent is information about important events widely exchanged within your work group?
43. To what extent does your work group make good decisions and solve problems effectively?
44. To what extent has your work group been adequately trained to handle emergency situations?
45. To what extent does your work group perform effectively under pressure or in emergency situations?
46. To what extent can your work group effectively meet day to day mission requirements?
47. To what extent do members of your work group maintain Navy standards of military courtesy, appearance and grooming?
48. To what extent are Navy standards of order and discipline maintained within your work group?
49. To what extent is your command effective in getting you to meet its needs and contribute to its effectiveness?
50. To what extent does your command do a good job of meeting your needs as an individual?

Questions 51 through 56 are answered, on the answer sheet, as shown below.

Very Dissatisfied	Somewhat Dissatisfied	Neither Satisfied nor Dissatisfied	Fairly Satisfied	Very Satisfied
11	11	11	11	11
11	11	11	11	11
11	11	11	11	11
11	11	11	11	11

51. All in all, how satisfied are you with the people in your work group?
52. All in all, how satisfied are you with your supervisor?
53. All in all, how satisfied are you with this command?
54. All in all, how satisfied are you with your job?
55. All in all, how satisfied do you feel with the progress you have made in the Navy, up to now?
56. How satisfied do you feel with your chances for getting ahead in the Navy in the future?

57. Does your assigned work give you pride and feelings of self-worth?
58. Do you regard your duties in this command as helping your career?
59. To what extent do lowest level supervisors influence what goes on in your department?
60. To what extent do non-supervisory personnel influence what goes on in your department?
61. To what extent is this command adequately training you to perform your assigned tasks?
62. To what extent is this command training you to accept increased leadership responsibility?
63. To what extent is this command training you to accept increased technical responsibility?
64. To what extent do you feel free to report any racial/ethnic discrimination in this command through proper channels?
65. To what extent does this command ensure that you have equal opportunity for advancement in rate/rank?
66. To what extent does this command ensure that you have equal opportunity for job assignment?
67. To what extent do you feel free to report any sex discrimination in this command through proper channels?
68. To what extent does this command ensure that you have equal opportunity for education and training?
69. To what extent does this command ensure that you receive a fair and objective performance evaluation?
70. To what extent is your chain of command willing to take action on known or alleged racial/ethnic issues?
71. To what extent is military justice administered fairly throughout this command?
72. To what extent are grievances and redress procedures available and well publicized in this command?

APPENDIX B

NARRATIVE HRM SURVEY SUMMARY  
(USS PAUL F. FOSTER (DD 964))

NARRATIVE HRM SURVEY SUMMARY  
USS PAUL F. FOSTER (DD 964)

The command's summary graph indicates a fairly positive survey (command mean), in general, with particularly strong points in goal emphasis, peer support, work group readiness, and community interrelationships. I might add that only one question met the computer's three criteria for "most negative" questions (usually there are a maximum of ten), which indicates that the command as a whole has no major negative areas. Also, using surface norms as the criterion, the command is especially outstanding in the area of Integration of Men and Mission (68%). With an initial indication of an overall positive atmosphere on the ship, I'd like to limit my comments to the relatively less positive areas as reflected in the survey: The low questions seemed to fit into four general categories: (1) Participation and Communication, (2) Planning and Teamwork, (3) Training and Motivation, and (4) Drug/Alcohol Concern.

In the first area, the crew feels that people affected by decisions are not asked for their ideas, and that the higher levels are not very aware of problems at their levels. Along with this, there is a general feeling that the lower levels of the organization have little influence or involvement in their departments (Questions 6, 14, 15, 62).

In the area of planning and teamwork, it was indicated that workload and time factors are not considered adequately to allow or aid in planning work ahead of time. This occurs at the supervisor level and within work groups (about 40% in each case answered 1 and 2), and the work groups do not feel that team goals are stressed enough (Questions 13, 25, 31, 35).

Training and motivational issues are indicated by the perception that rewards are not usually commensurate with work accomplished, that the command doesn't meet individual goals, especially in technical training and training for advancement, and that, for at least 39% of the crew, their duties are not helpful to their careers (this question also indicated that, to a similar size group, their duties were career enhancing (42%) (Questions 8, 9, 56, 59, 10 Sup.)).

In the drug and alcohol area, about half of the crew feel their work groups do not discourage the abuse of alcoholic beverages and that the Counselling and Assistance Centers are not very effective in dealing with drug and alcohol abuse.

Further study seems to be indicating more disparity of data between individual work groups, pay grades, and departments, rather than throughout the command in general. Some groups that may indicate further investigation are: E-7--9, 01-2, 03, ENG, OPS, SUP.

LT STEVE NEUMAN, USN  
Lead Consultant  
HRMST TWO

APPENDIX C  
HRAV/MAP PLANNING DOCUMENTS

### HRAV Objectives

Objective	How to Achieve
1. To negotiate and define roles and responsibilities (focus on division officers and chief petty officers).	1. a. Workshop on Role Negotiation. b. Role Definition Workshop.
2. To provide tools for and develop team building. a. Intradepartmental b. Interdepartmental	2. a. Group Dynamics Workshop. b. Communication Skills Workshop. c. Team Building Workshop.
3. To provide tools for planning and reducing "crisis management."	3. a. Management by Group Objectives (MBGO) Workshop. b. Time Management Workshop. c. Planning Workshop.
4. To train E-6 and E-5 personnel in Leadership and Management Techniques.	4. 2-Day LMT Package.
5. To develop decision-making ability.	5. Decision-Making Workshop.
6. To provide a decision-making process.	6. Problem Solving/Action Planning Workshop.
7. To produce department CAPs (production-oriented).	7. CAP Workshop.
8. To transfer these tools and techniques to the crew.	8. Effective implementation of the CAP.



HRAV Planning Calendar for first session of Management Action Planning.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	0800-1100 GROUP DYNAMICS	0800-1130 MANAGEMENT BY OBJECTIVES WITH TIME CONSIDER- ATIONS	1000-1630 ACTION PLANNING	0800-1130 ACTION PLANNING (CON'T)
	1100-1230 LUNCH	1130-1300 ACTION PLANNING PREPARATION		1130-1300 REPORT OUT OF PLANS
1230-1330 INTRO/ADMIN	1230-1630 DECISION MAKING			
1330-1630 ROLE NEGOTIA- TION & DEFINI- TION				
1630-1830 SUPPER	1630-1830 SUPPER		1630-1830 SUPPER	
1830-2030 ROLE DEFINI- TION (CONT)	1830-2030 COMMUNICATION SKILLS		1830-2030 TROUBLE- SHOOTING	

1. Calendar for officers (ensigns through lieutenant commanders) and senior petty officers (E-7s through E-9s).

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	0800-1100 COMMUNICATIONS WORKSHOP			0800-1100 COMMUNICATIONS WORKSHOP
	1100-1230 LUNCH			END WORKSHOP
1230-1630 LEADERSHIP WORKSHOP	1230-1430 MOTIVATION WORKSHOP		1230-1630 LEADERSHIP WORKSHOP	
	END WORKSHOP		1830-2030 MOTIVATION WORKSHOP	

2. Calendar for petty officers (E-5s and E-6s).

APPENDIX D

COMMAND ACTION PLAN GOALS  
USS PAUL F. FOSTER (DD 964)

#### COMMAND ACTION PLAN GOALS

- To develop detailed Departmental Action Plans (DAPs) by 15 December 1976 in order to support command's and higher authority's goals in meeting objectives in 1977, with specific emphasis on the 1st quarter.
- To develop internal milestones by \_\_\_\_\_ to ensure that the RAV is completed at the earliest possible time (NLT 1 March 1977).
- To achieve a first term reenlistment rate of 50 percent and a career reenlistment rate of 100 percent of individuals identified by division officers as particularly desirable by 1 April 1977 through more personal attention by every level in the chain of command.
- To reduce crisis management by identifying, planning, and communicating known requirements through the development of effective action plans at the command, department, division, and work center levels by January 1977 and with monthly review of milestones.
- To improve the day to day livability of messing and berthing spaces by 1 December 1976 through closer supervision by departmental chain of command.
- To improve the internal cleanliness of the ship overall by 10 December 1976 through closer supervision by departmental chain of command.
- To measure the effectiveness of each PMS work center by 1 January 1977 and report that effectiveness monthly thereafter and to improve that effectiveness by 25 percent by 1 April 1977.
- To achieve a reduction of 50 percent in the number of casualties attributed to personnel error by 1 April 1977 by implementing all available PQS creating an attitude at all levels that the only way to operate and maintain equipment is through the onsite use of operating instructions and technical manuals.
- To provide each work center supervisor with an operating budget for consumable and equipment (repair parts funding is unlimited) by 1 January 1977.
- To establish a formal short-range and long-range training program for all officers by 1 January 1977 that will lead to and/or improve surface warfare qualification and professionalism.
- To establish a formal short-range and long-range training program for all enlisted men by 1 February 1977 that will enhance the individual's professionalism in his rate and provide the command with the necessary NECs.
- To improve the professionalism and military smartness of watchstanding throughout the ship by 1 January 1977 by the complete support of each watchstander by the chain of command with regard to responsibility and accountability.
- To have accurate guidelines of all multiple equipments attached to the appropriate MRCs by 1 February 1977.

- To achieve a 10 percent reduction in division officer tasks by 1 January 1977 by identifying qualified individuals down to the second class petty officer level in order to redistribute responsibility and accountability of workload, including collateral duties.
- To develop within the wardroom and within the Chief's Quarters two sets of complementary objectives by 1 February 1977 that will enhance the internal and external military smartness of the command.

APPENDIX E  
MAP SURVEY QUESTIONNAIRES

5 April 1977

INITIAL SURVEY OF ACTION PLANNING ABOARD USS PAUL F. FOSTER

Action Planning

1. How much opportunity did you have to contribute to action planning for your work group?

CONTRIBUTION OPPORTUNITY  
1-----2-----3-----4-----5  
Little Moderate Great Deal

What was the mix of influence or input during

2. departmental action planning? }  
3. division planning? }  
INFLUENCE/INPUT  
1-----2-----3-----4-----5  
Mostly Downward (Top-down) Equal Mostly Upward (Bottom-up)

To what extent did your participation in action planning increase your understanding of

4. the ship's mission?  
5. your department's responsibilities?  
6. your division's responsibilities?  
7. responsibilities of other divisions in your department?  
8. your own responsibilities?
- EFFECT OF PARTICIPATION  
1-----2-----3-----4-----5  
None Moderate Great Deal

What proportion of the goals of your Department Action Plan were realistic in terms of

9. target dates?  
10. difficulty?  
11. availability of resources?
- REALISTIC  
1-----2-----3-----4-----5  
0% 25% 50% 75% 100%

FOSTER, 5 April 1977

What proportion of the goals of your Division Action Plan were realistic in terms of

12. target dates? }  
13. difficulty? }  
14. availability of resources? }
- REALISTIC
- 1-----2-----3-----4-----5  
0%      25%      50%      75%      100%

How satisfactory was the number of goals set for your

15. department? }  
16. division? }
- NUMBER
- 1-----2-----3-----4-----5  
Too                      Just                      Too  
Few                      Right                      Many

What proportion of the goals were clearly stated for your

17. department?  
18. division?
- CLEARLY STATED
- 1-----2-----3-----4-----5  
0%      25%      50%      75%      100%

Action Implementation

19. Since the HRAV what proportion of the time did your supervisor maintain clear priorities among the action plan goals?

CLEAR PRIORITIES

1-----2-----3-----4-----5  
0%      25%      50%      75%      100%

To what extent did the goal priorities reflect the priorities of

20. the CO?  
21. your supervisor  
22. yourself?  
23. your subordinates? }
- REFLECTED PRIORITIES OF
- 1-----2-----3-----4-----5  
Little                      Considerably                      Predominantly

FOSTER, 5 April 1977

24. What proportion of the members of your work group felt strongly committed to the group's action plan goals?

MEMBERS STRONGLY COMMITTED  
1-----2-----3-----4-----5  
None          Some          50%          Most          All

25. How frequent were reviews of your work group's progress toward its goals?

FREQUENCY  
1-----2-----3-----4-----5  
Weekly    Biweekly    Monthly    Quarterly    None

To what extent did reviews of progress toward your work group's goals take into consideration

26. technical data (e.g., task complexity, logistics, etc.)?

27. personnel data (e.g., organizational climate, motivation, leadership, rotation dates, etc.)?

28. changes in operational schedule?

CONSIDERATION  
1-----2-----3-----4-----5  
Never    Sometimes    Often    Usually    Always

29. How valuable were reviews of progress toward action plan goals?

VALUE  
1-----2-----3-----4-----5  
Highly Negative    Moderately Negative    Neither    Moderately Positive    Highly Positive

30. Overall, how much extra effort (over and above the old way) was required for action planning and implementation?

EXTRA EFFORT  
1-----2-----3-----4-----5  
None    Slight    Moderate    Much    Very much



FOSTER, 5 April 1977

Reflecting on your experience with action planning since the HRAV, how severe were problems experienced in the following areas?

- 31. Group problem solving?
- 32. Consistency of application?
- 33. Continuity of personnel?
- 34. Adequacy of the review process?
- 35. Integration into the management system?
- 36. Goal measureability?
- 37. Supervisory training?
- 38. Management commitment?
- 39. Time consumed?
- 40. Subordinate participation?
- 41. Policy flexibility?

SEVERITY

1-----2-----3-----4-----5  
None      Low      Moderate      High      Very High

Outcomes

Based on your experiences so far, what effects do you feel action plans have had on:

- 42. Quantity of output or performance?
- 43. Quality of output or performance?
- 44. Grievance rate?
- 45. Absenteeism?
- 46. Crisis management
- 47. Safety discrepancies?
- 48. Goal achievement?
- 49. Milestones met?

EFFECTS

1-----2-----3-----4-----5  
Very      Slightly      No      Slightly      Very  
Negative      Effect      Positive

FOSTER, 5 April 1977

Judging from your experiences with action plans so far, what do you consider to be the potential of the method with respect to:

50. Quantity of output or performance?

51. Quality of output or performance?

52. Grievance rate?

53. Absenteeism?

54. Crisis management?

55. Safety discrepancies?

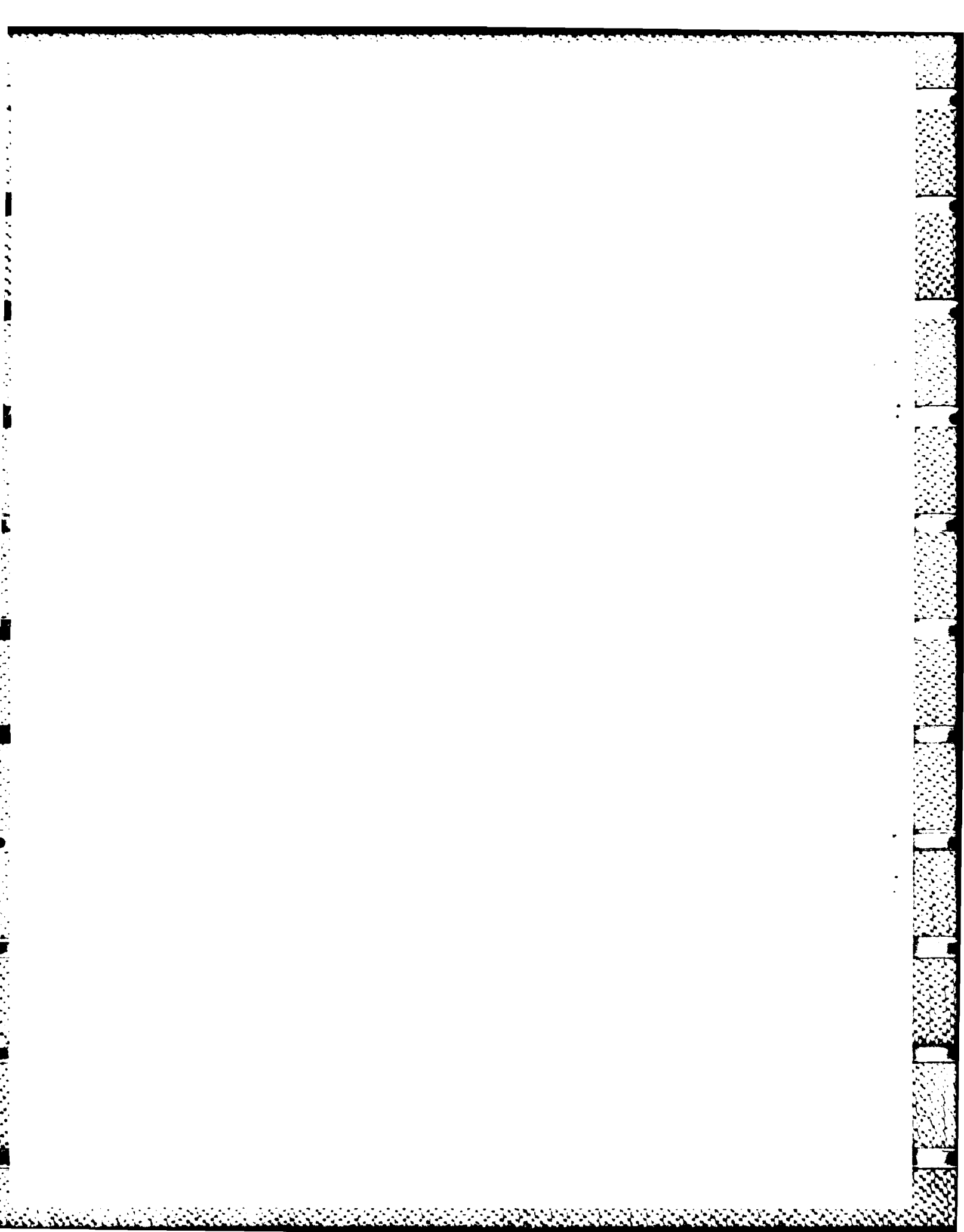
56. Goal achievement?

57. Milestones met?

58. Overall, what is your judgment of the potential benefit/cost ratio to be anticipated from action planning?

POTENTIAL  
1-----2-----3-----4-----5  
None Low Moderate High Very high

POTENTIAL BENEFITS WILL . . .  
1-----2-----3-----4-----5  
Far Significantly Just Be Be  
Outweigh Outweigh Balance Significantly Far  
Costs Costs Costs Exceeded Exceeded  
By Costs By Costs



12 September 1977

RESURVEY OF ACTION PLANNING ABOARD USS PAUL F. FOSTER

The following questions attempt to capture your experience with action planning since the initial survey (5 April 1977). We think of action planning as consisting of:

- Setting ship, department, and division goals;
- Setting target dates for each goal;
- Setting priorities of goals;
- Delegating responsibility for each goal;
- Coordinating with other departments or divisions involved;
- Assignment of tasks to workers;
- Checking on progress and revision of above where necessary;
- Inspecting results and feeding back appraisals to workers;
- Crossing off when completed.

All these aspects of action planning take place within the constraints and limitations of external "powers that be." Recognizing these limitations, we wish to evaluate the effect of action planning on how you accomplish your work group's tasks and avoid disruptive crises and their effects.

Action Planning

1. How much opportunity did you have to contribute to action planning for your work group?

CONTRIBUTION OPPORTUNITY

1-----2-----3-----4-----5

Little                      Moderate                      Great deal

To what extent did your participation in action planning increase your understanding of

2. the ship's mission?
3. your department's responsibilities?

4. other department's responsibilities?

5. your division's responsibilities?

6. responsibilities of other divisions in your department?

7. your own responsibilities?

EFFECT OF PARTICIPATION

1-----2-----3-----4-----5

None                      Moderate                      Great deal

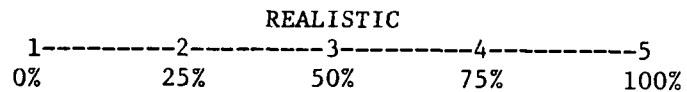
FOSTER, 12 September 1977

What proportion of the goals of your Department Action Plan were realistic in terms of

8. target dates?

9. difficulty?

10. availability of resources?

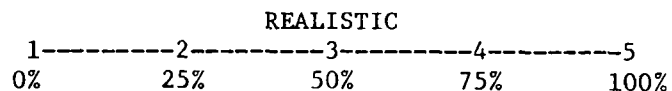


What proportion of the goals of your Division Action Plan were realistic in terms of

11. target dates?

12. difficulty?

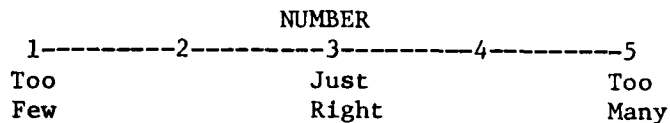
13. availability of resources?



How satisfactory was the number of goals set for your

14. department?

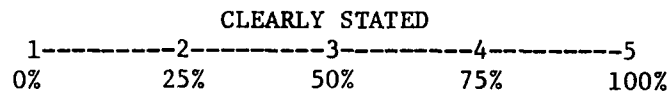
15. division?



What proportion of the goals were clearly stated for your

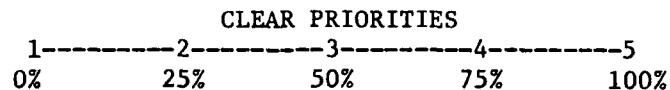
16. department?

17. division?

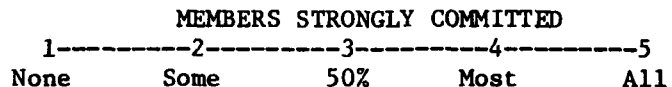


#### Action Implementation

18. What proportion of the time did your supervisor maintain clear priorities among the action plan goals?



19. What proportion of the members of your work group felt strongly committed to the group's action plan goals?



FOSTER, 12 September 1977

20. How frequent were reviews of your work group's progress toward its goals?

FREQUENCY  
1-----2-----3-----4-----5  
Weekly    Biweekly    Monthly    Quarterly    None

To what extent did reviews of progress toward your work group's goals take into consideration

21. technical data (e.g., task complexity, logistics, etc.)?

21. personnel data (e.g., organizational climate, motivation, leadership, rotation dates, etc.)?

23. changes in operational schedule?

CONSIDERATION  
1-----2-----3-----4-----5  
Never    Sometimes    Often    Usually    Always

24. How valuable were reviews of progress toward action plan goals?

VALUE  
1-----2-----3-----4-----5  
Highly Negative    Moderately    Neither    Moderately    Highly Positive

25. Overall, how much extra effort (over and above the old way) was required for action planning and implementation?

EXTRA EFFORT  
1-----2-----3-----4-----5  
None    Slight    Moderate    Much    Very much

Reflecting on your experience with action planning recently, how severe were problems experienced in the following areas?

26. Continuity of personnel?

27. Integration into the management system?

28. Management commitment?

29. Time consumed?

SEVERITY  
1-----2-----3-----4-----5  
None    Low    Moderate    High    Very much

Outcomes

Based on your experiences so far, what effects do you feel action plans have had on:

- 30. Quantity of work group output?
- 31. Quality of work group output?
- 32. Work group morale?
- 33. Ship and department mission performance?
- 34. Avoiding crises?
- 35. Dealing with crises?
- 36. Safety discrepancies?
- 37. Goal achievement?
- 38. Milestones met?

EFFECTS

1-----2-----3-----4-----5

Very      Slightly      No      Slightly      Very

Negative      Effect      Positive

- 39. Overall, what is your judgment of the potential benefit/cost ratio to be anticipated from action planning?

POTENTIAL BENEFITS WILL . . .

1-----2-----3-----4-----5

Be Far      Significantly      Just      Significantly      Far

Exceeded      Exceeded      Balance      Outweigh      Outweigh

By Costs      By Costs      Costs      Costs      Costs

Note. Item 39 was actually stated with scale labels in reverse order in the resurvey; however, this arrangement is consistent with the results reported in Table 1 and allows direct comparisons of results in the survey and resurvey.

APPENDIX F  
MAP INTERVIEW SCHEDULE



20 May 1977

## MAP INTERVIEW SCHEDULE

### Introduction

Objective: Determine effects of MAP below the departmental level.  
Learn about experiences with MAP so far.  
Gather suggestions for improvement in use of MAP.

#### I. Organizational Setting

- A. Correction of ship's organization chart for subunit represented by interviewee.
- B. What is the size and mission of the work unit you manage/supervise?

#### II. Mapping and Description of Managerial Method

- A. How is planning and work assignment accomplished in your (work group)?
- B. Was a plan (goals, task, milestones, assignments) developed for this work group (since April MAP session)?
- C. Who participates in its development/revision?
- D. Are any of the actions or goals in the (work group's) plan beyond those specified in the DAP? dAP?
- E. Did any of the subordinate work centers (WCs) develop plans? (CHART) Which ones have their own, written, distinct plans?

#### III. Form of Action Planning Adopted in this Subunit

- A. What are the important features of the MAP process/method as you see it (referent: DAP and/or dAP)?
- B. What do you consider the requirements of a good plan?
- C. After developing the plan, how is it decided who should do what?
- D. How do you keep track of progress toward the goals or milestones of the plan (frequency of review, reporting and documentation, etc.)?
- E. How do you work at achieving your goals when crises or other interruptions occur?
- F. How are changes in priorities or personnel reassignments decided?

G. When a task is completed, is there any feedback of results or evaluations?

H. How do you register your satisfaction or dissatisfaction?

IV. Change over Time

A. How has your (work group) changed the way MAP is used since you first tried MAP in the shipyard at Long Beach?

B. What changes in MAP skills and attitudes toward MAP have occurred since the FOSTER first tried MAP in November?

C. What effects did MAP have on your (work group's) accomplishments when you were in the shipyard at Long Beach? (Evidence)?

Probes: Did it have any effect on command goal accomplishments?

Did it have any effect on individual performance or motivation?

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